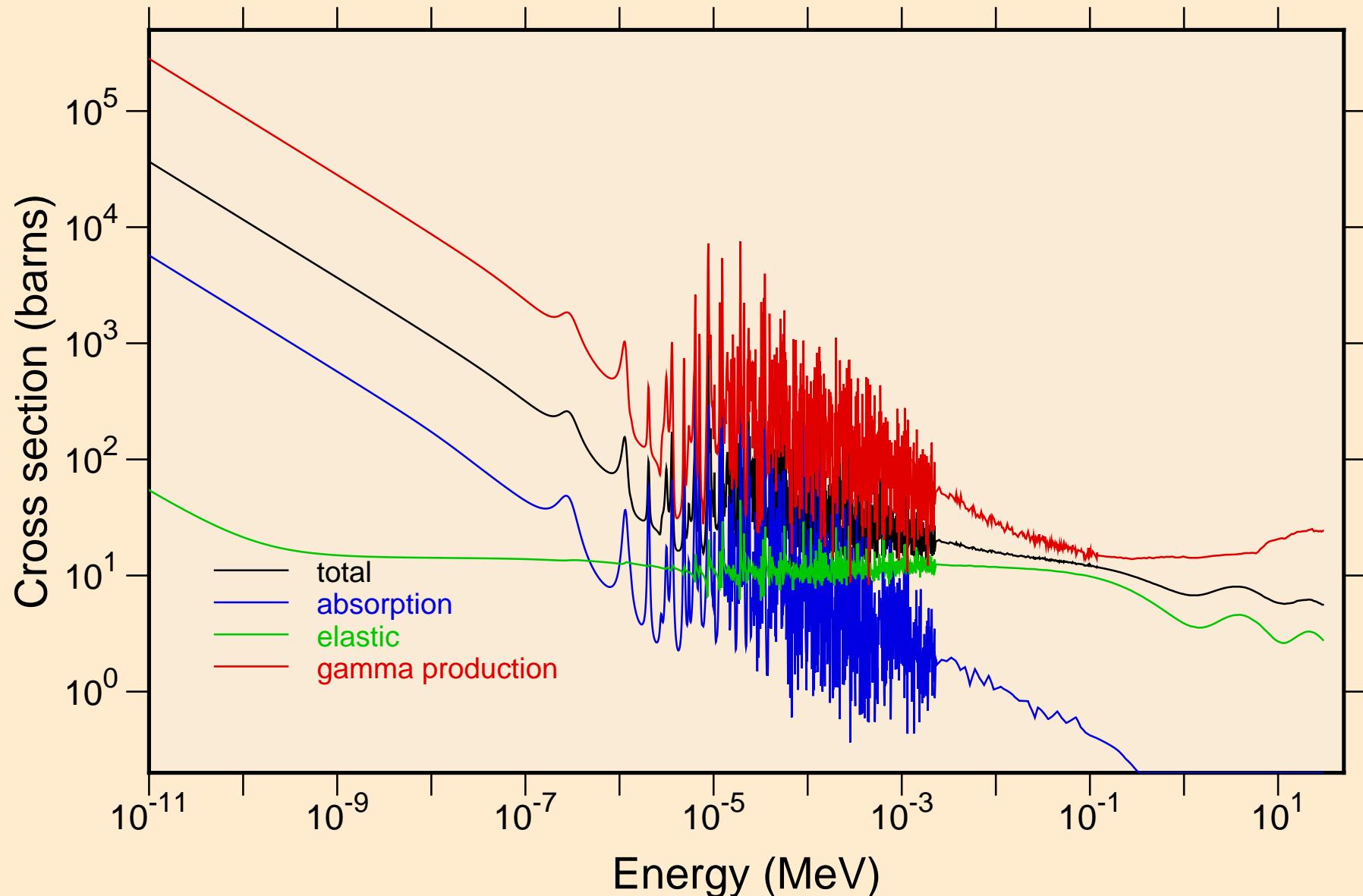


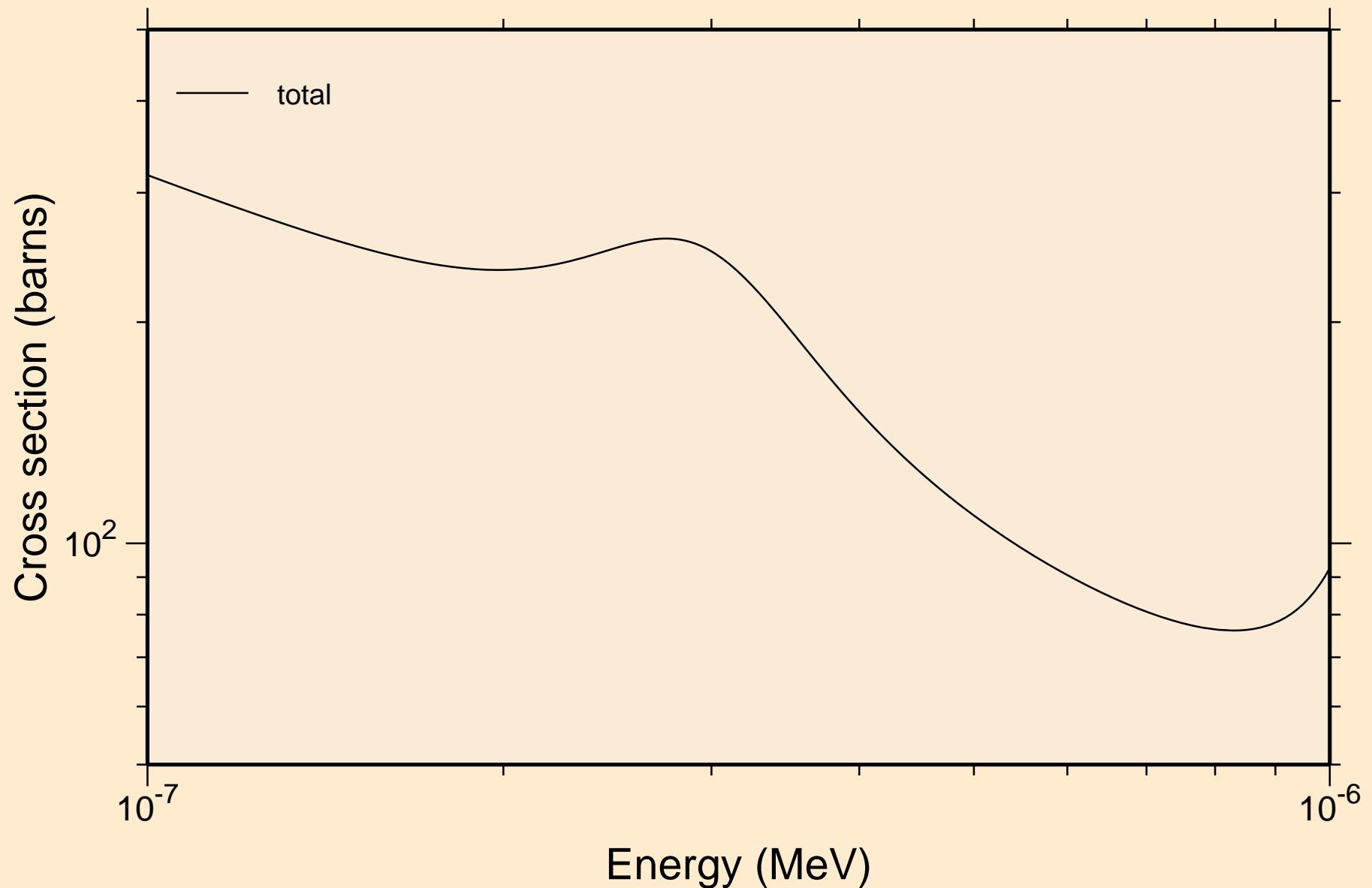
# ADVANCE CALCULATIONS

## Principal cross sections



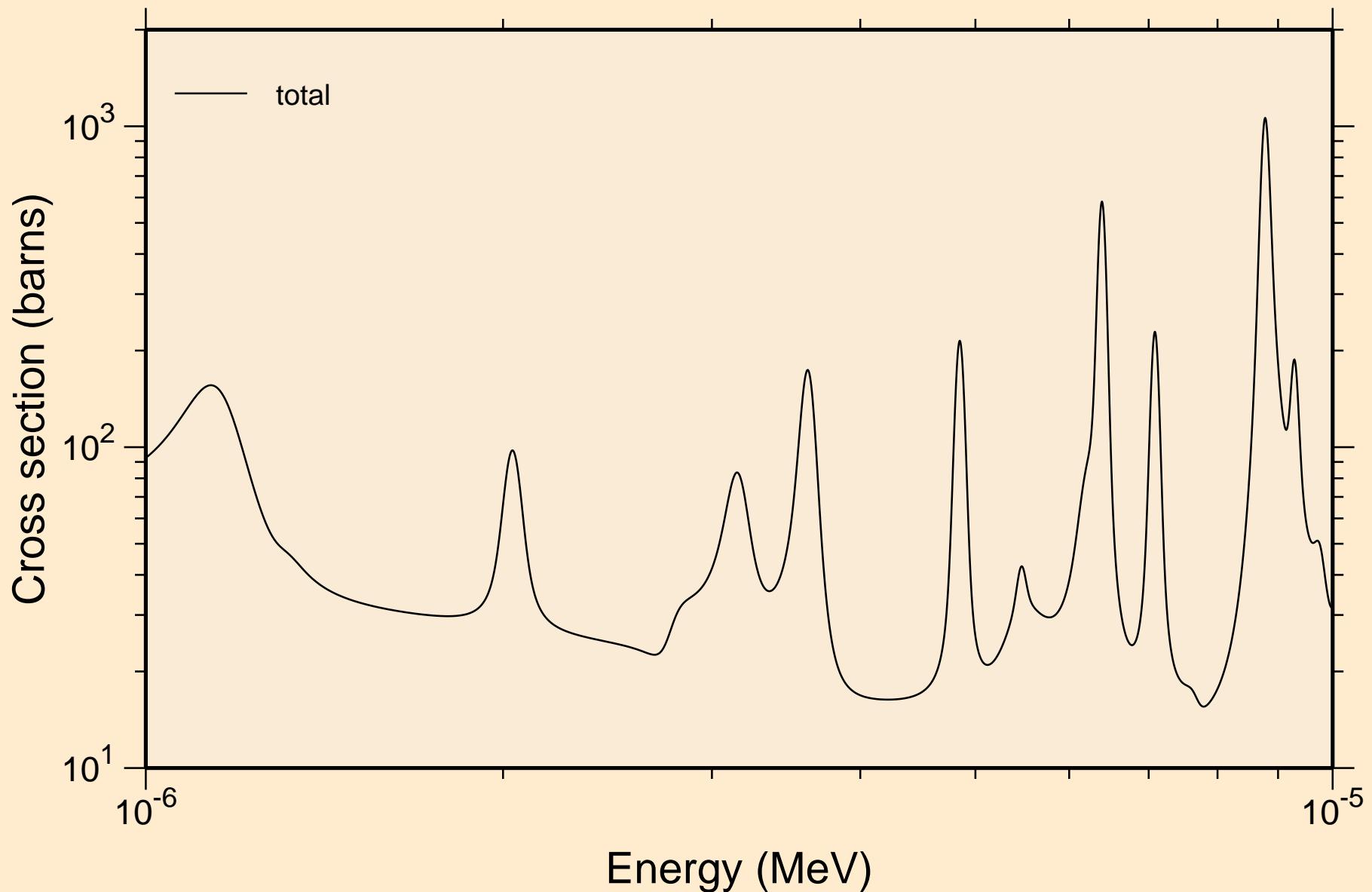
# ADVANCE CALCULATIONS

## resonance total cross section



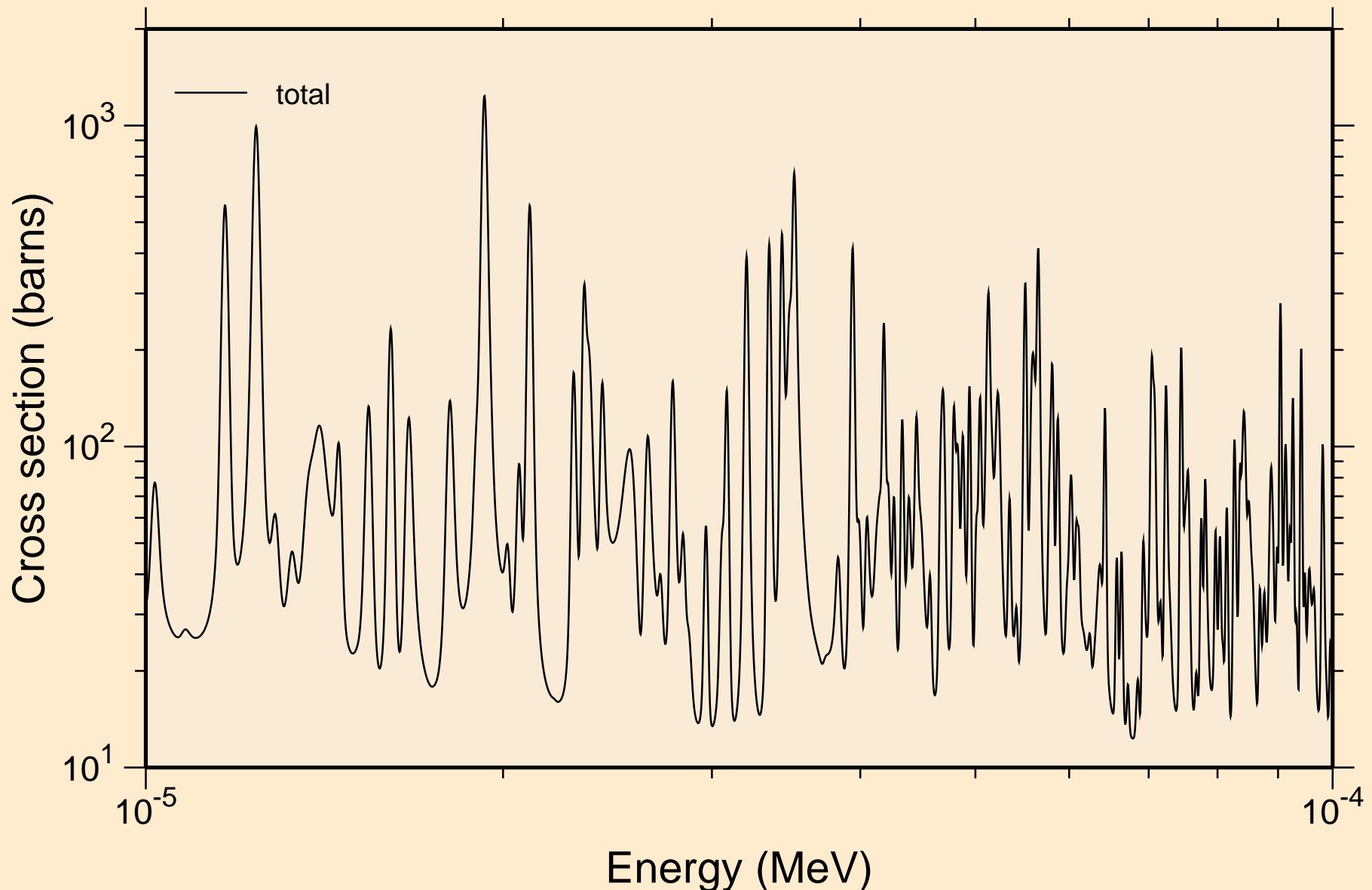
# ADVANCE CALCULATIONS

## resonance total cross section



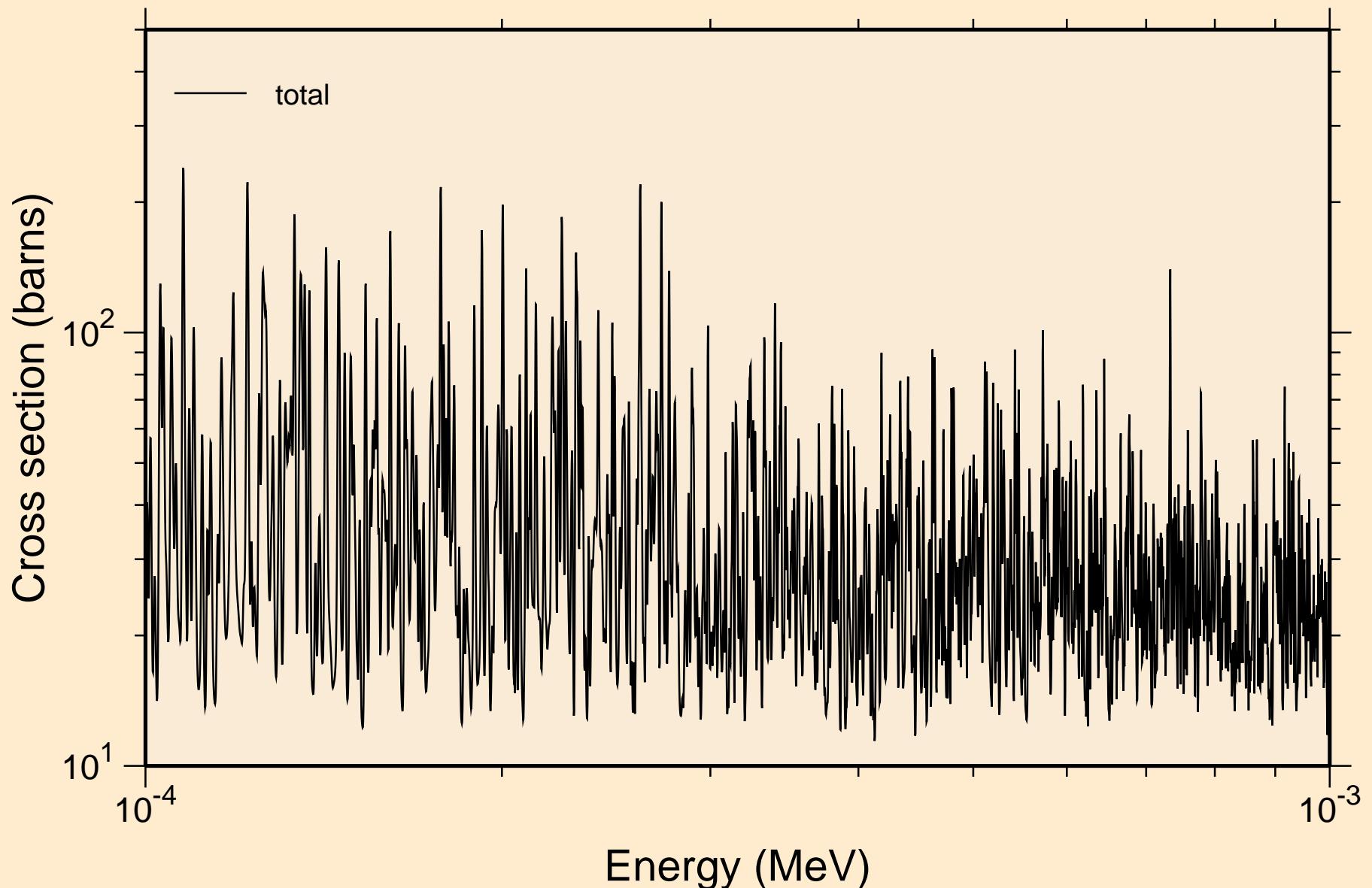
# ADVANCE CALCULATIONS

## resonance total cross section



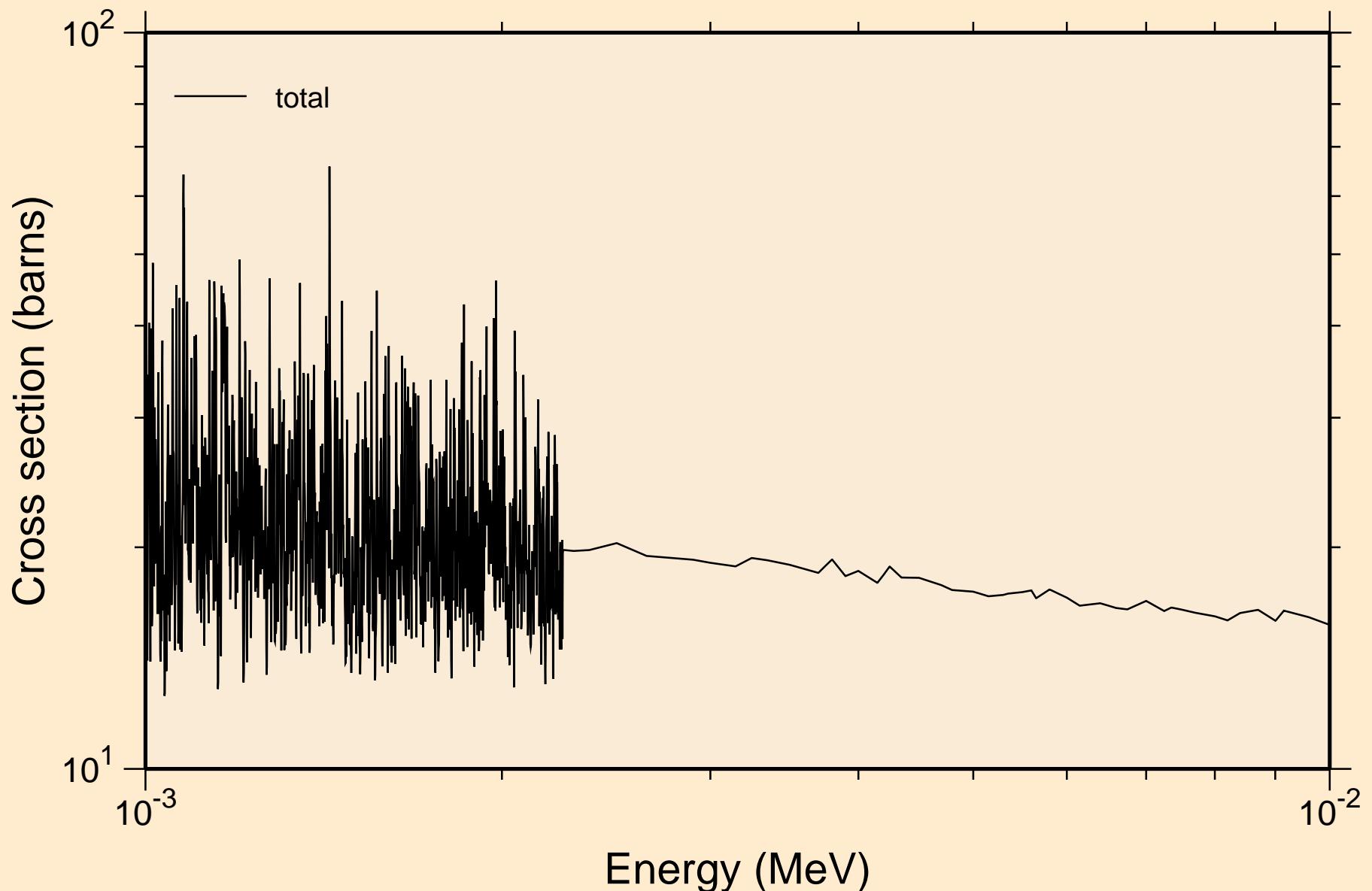
# ADVANCE CALCULATIONS

## resonance total cross section



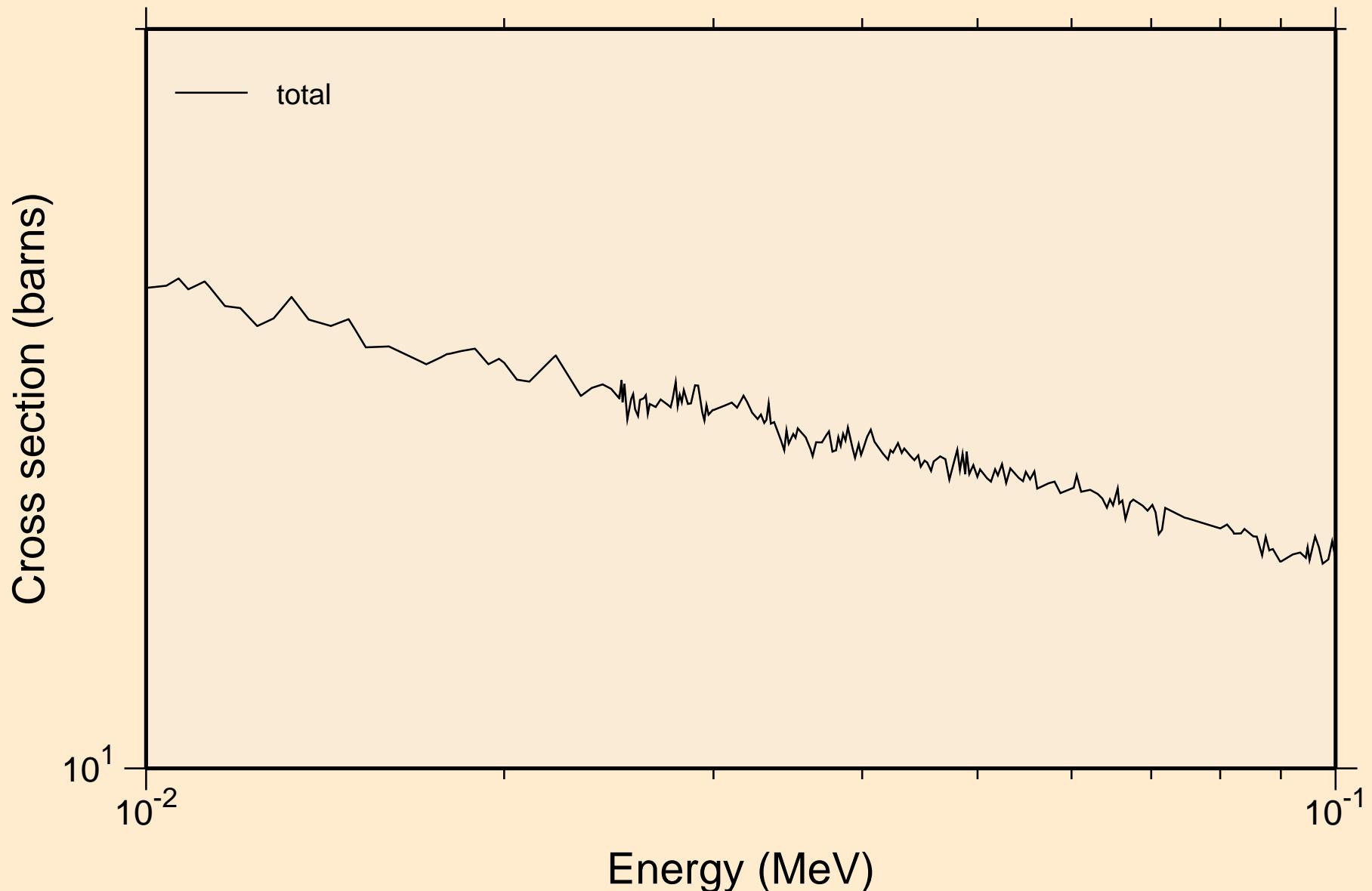
# ADVANCE CALCULATIONS

## resonance total cross section



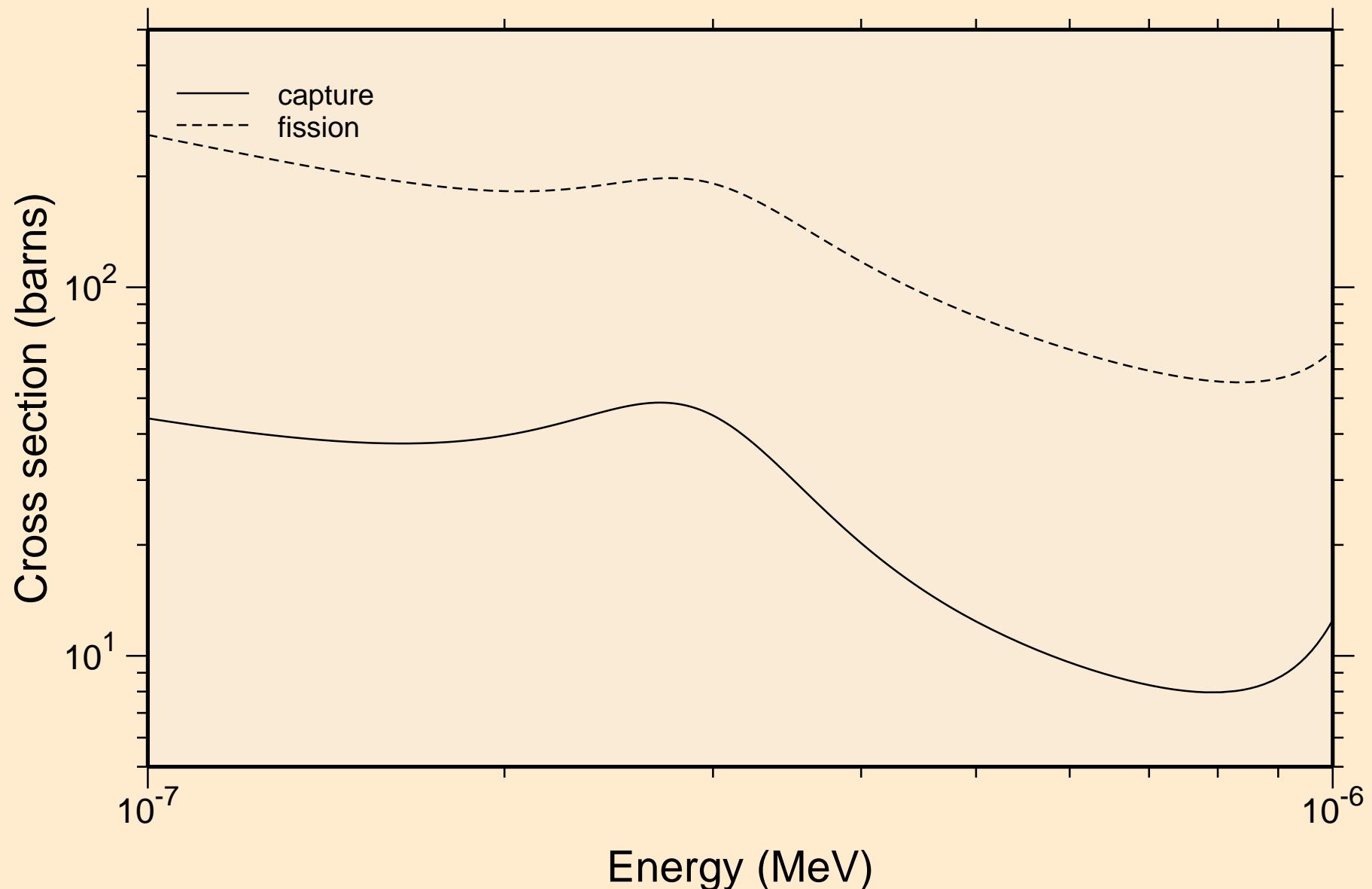
# ADVANCE CALCULATIONS

## resonance total cross section



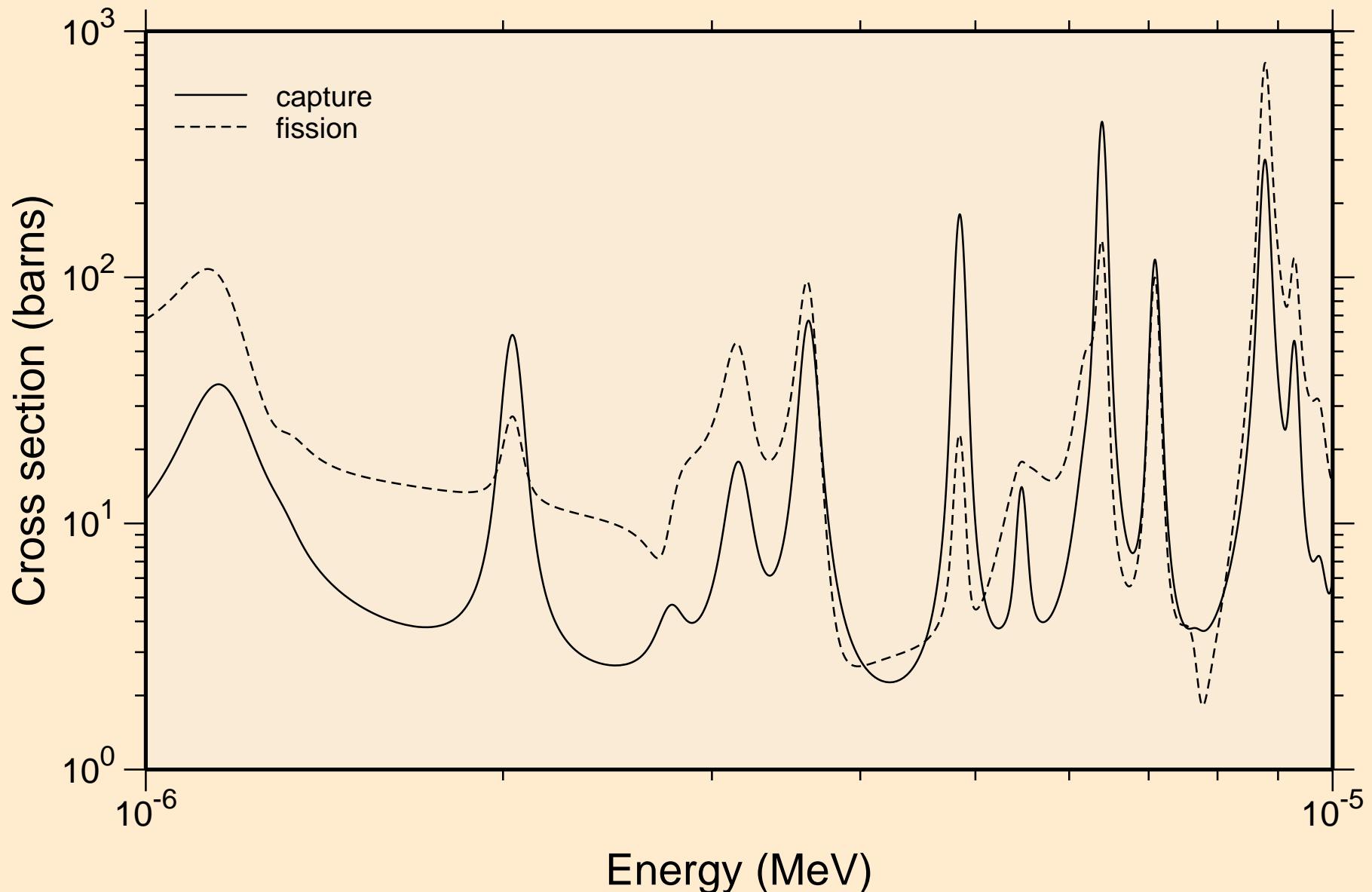
# ADVANCE CALCULATIONS

## resonance absorption cross sections



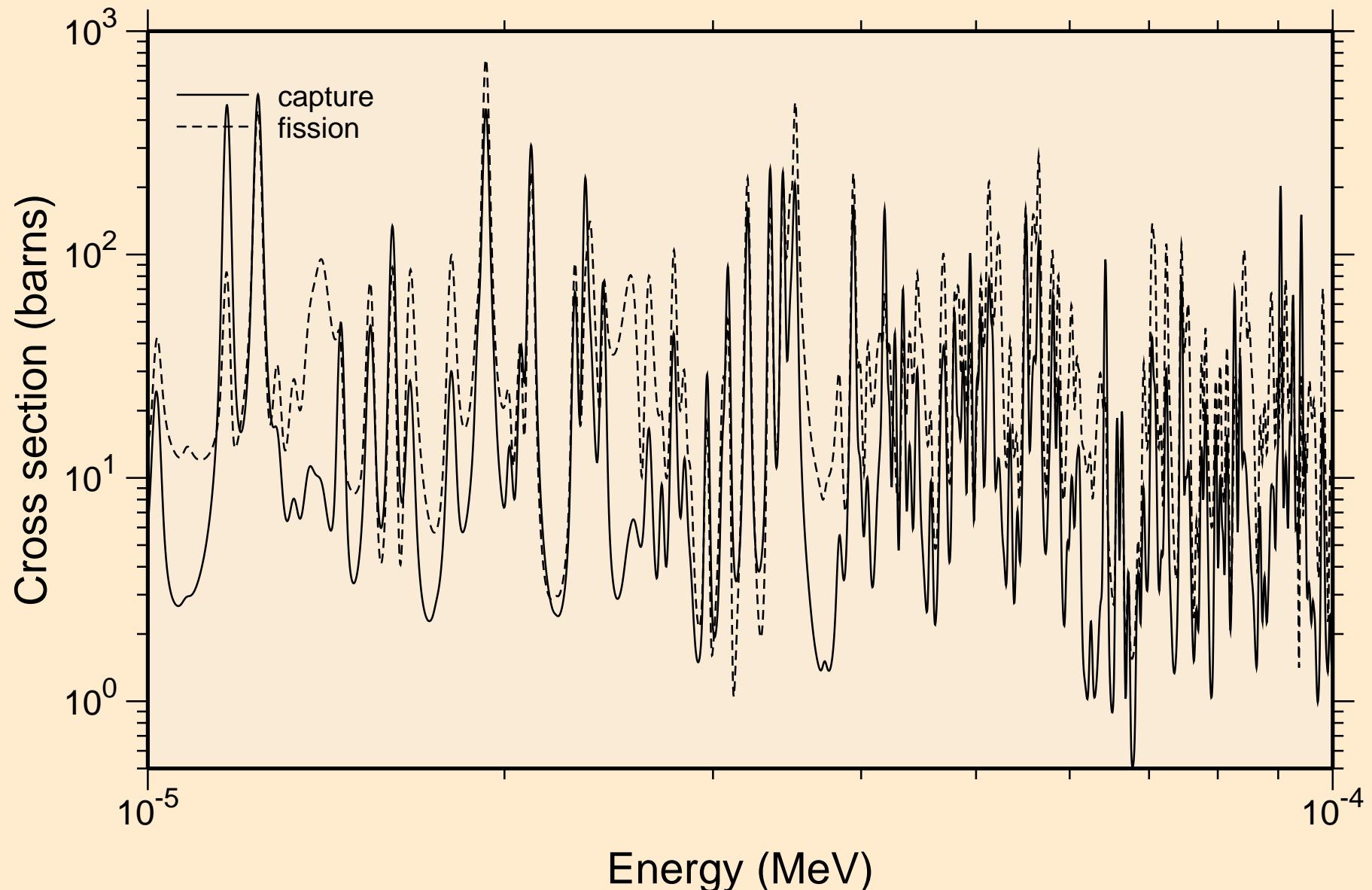
# ADVANCE CALCULATIONS

## resonance absorption cross sections



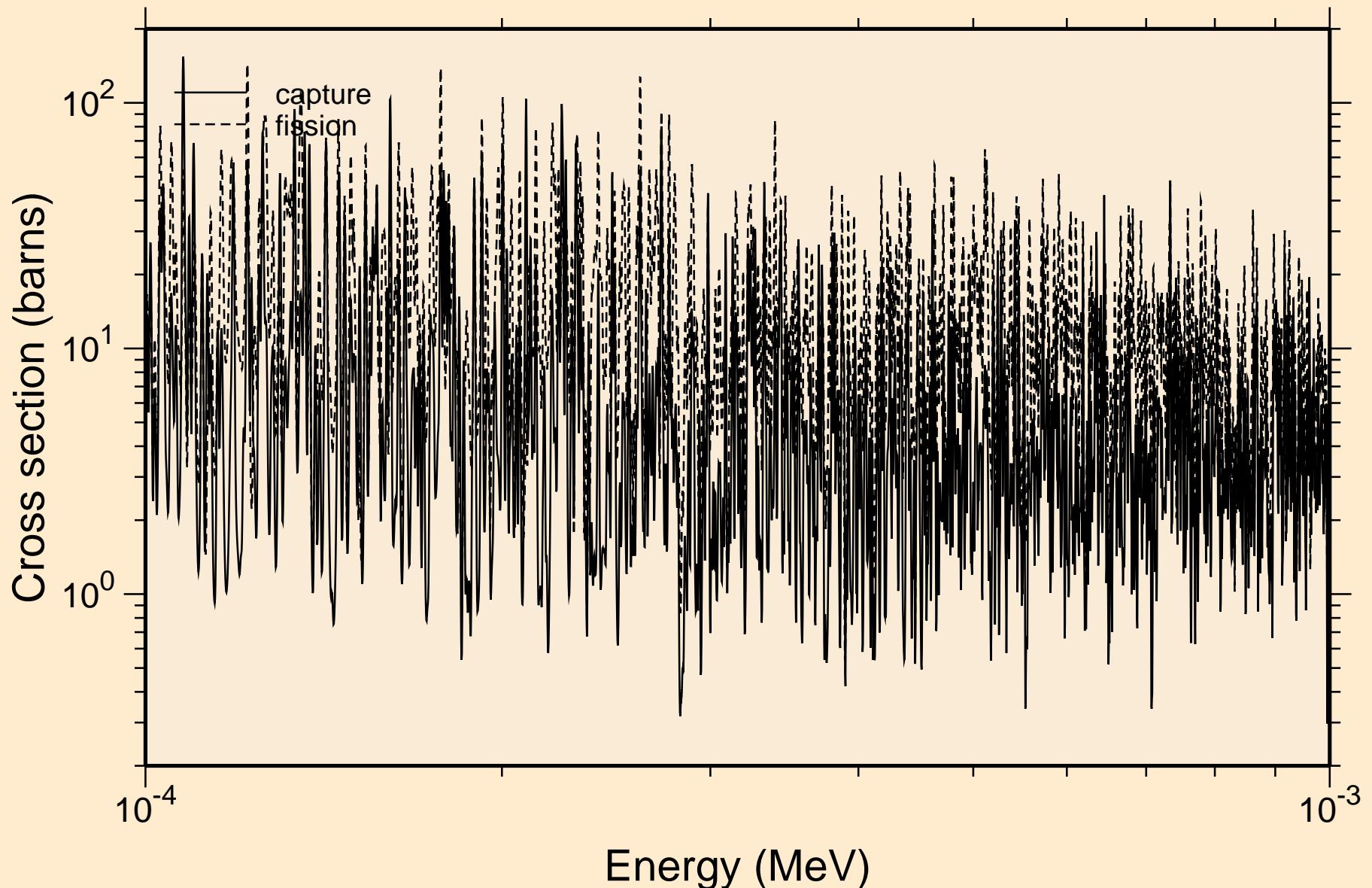
# ADVANCE CALCULATIONS

## resonance absorption cross sections



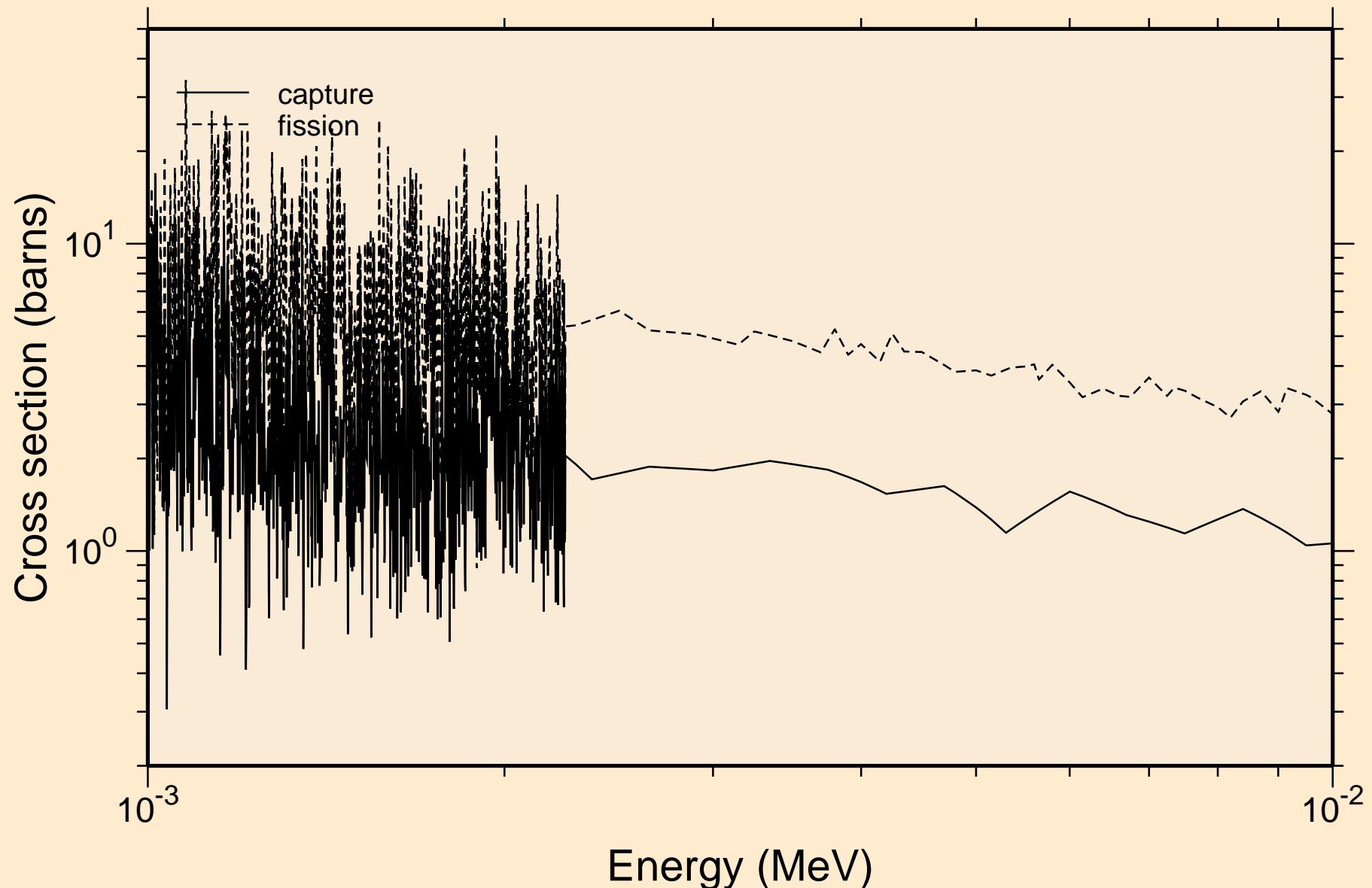
# ADVANCE CALCULATIONS

## resonance absorption cross sections



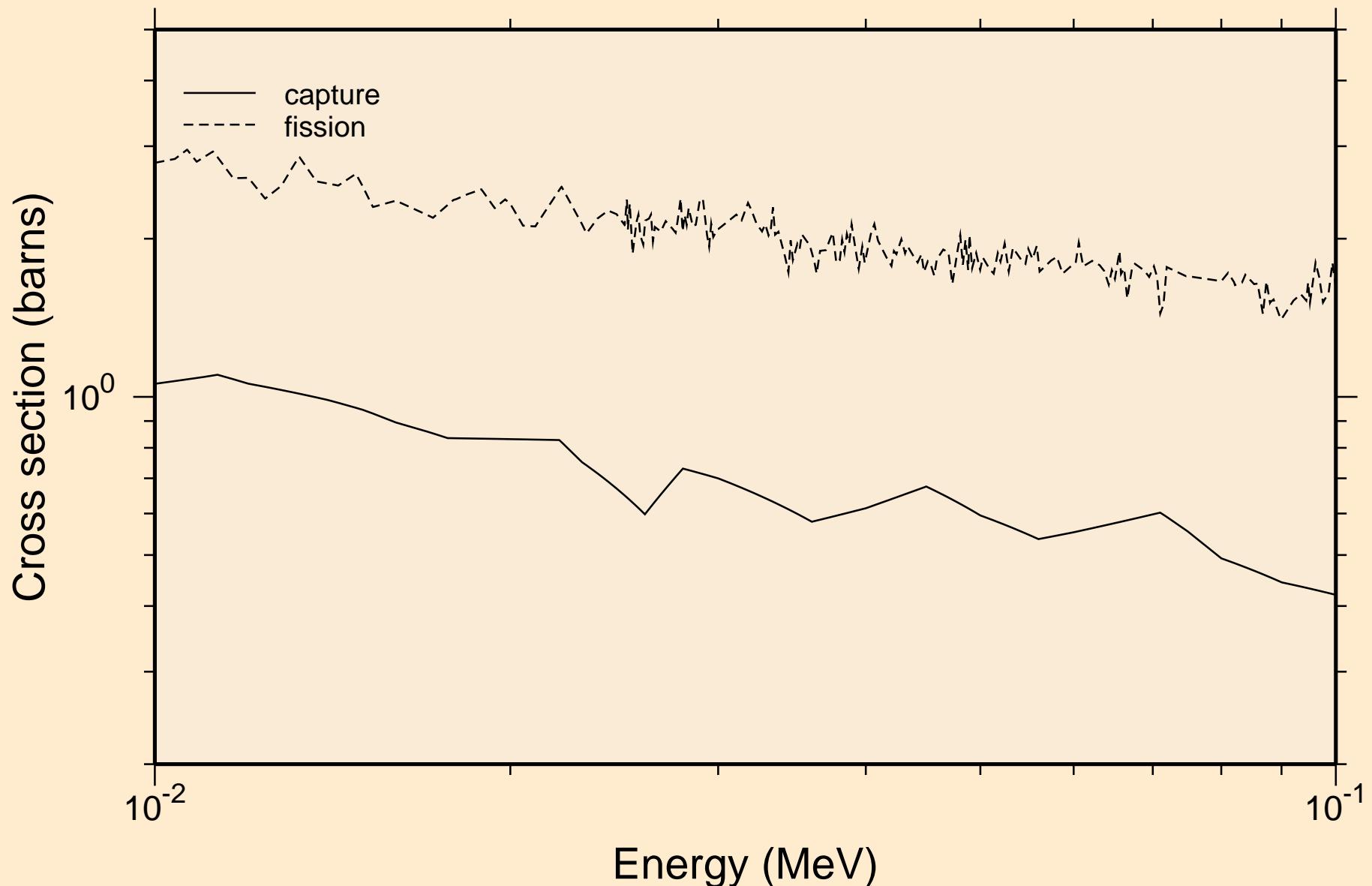
# ADVANCE CALCULATIONS

## resonance absorption cross sections



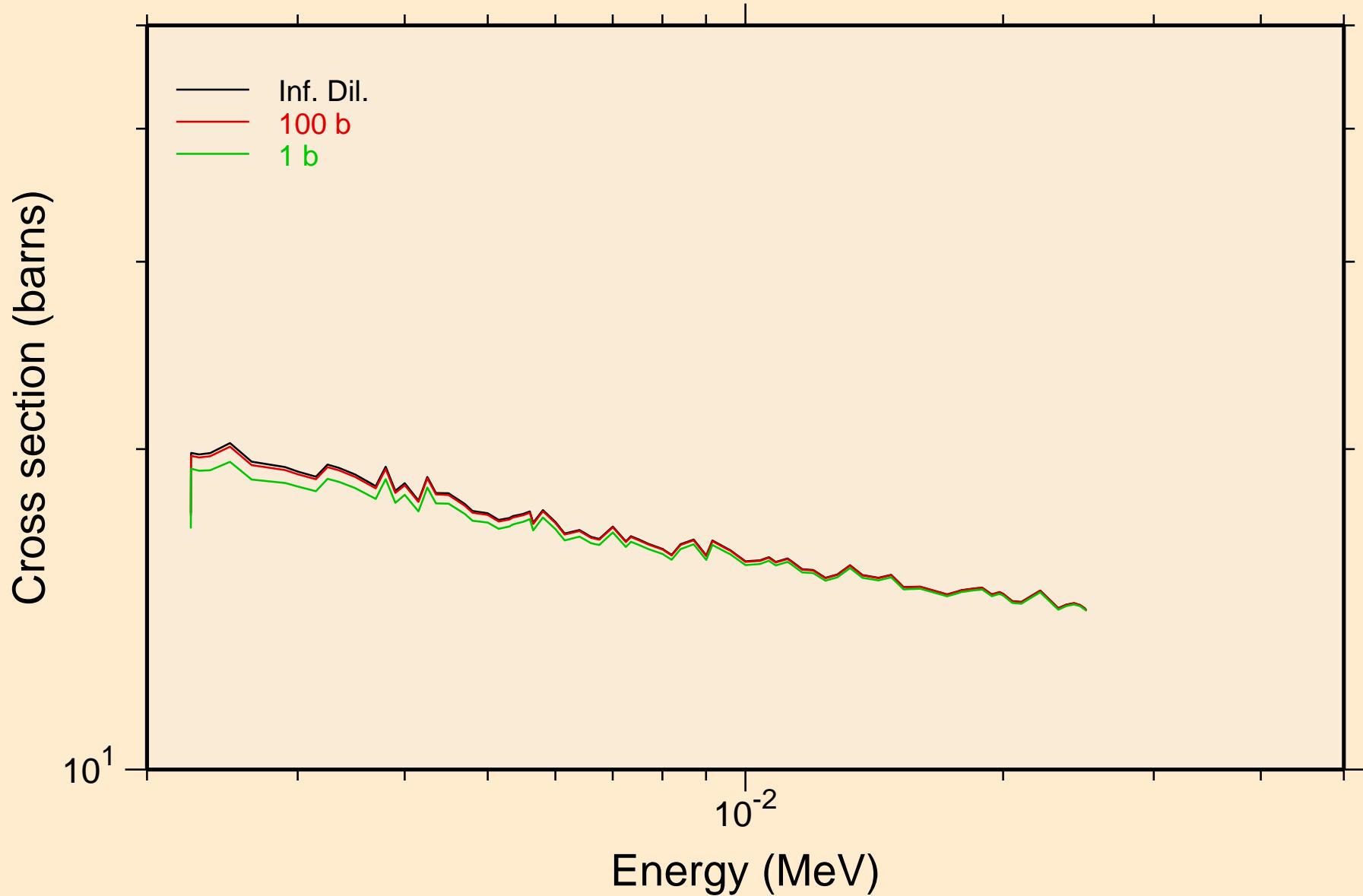
# ADVANCE CALCULATIONS

## resonance absorption cross sections



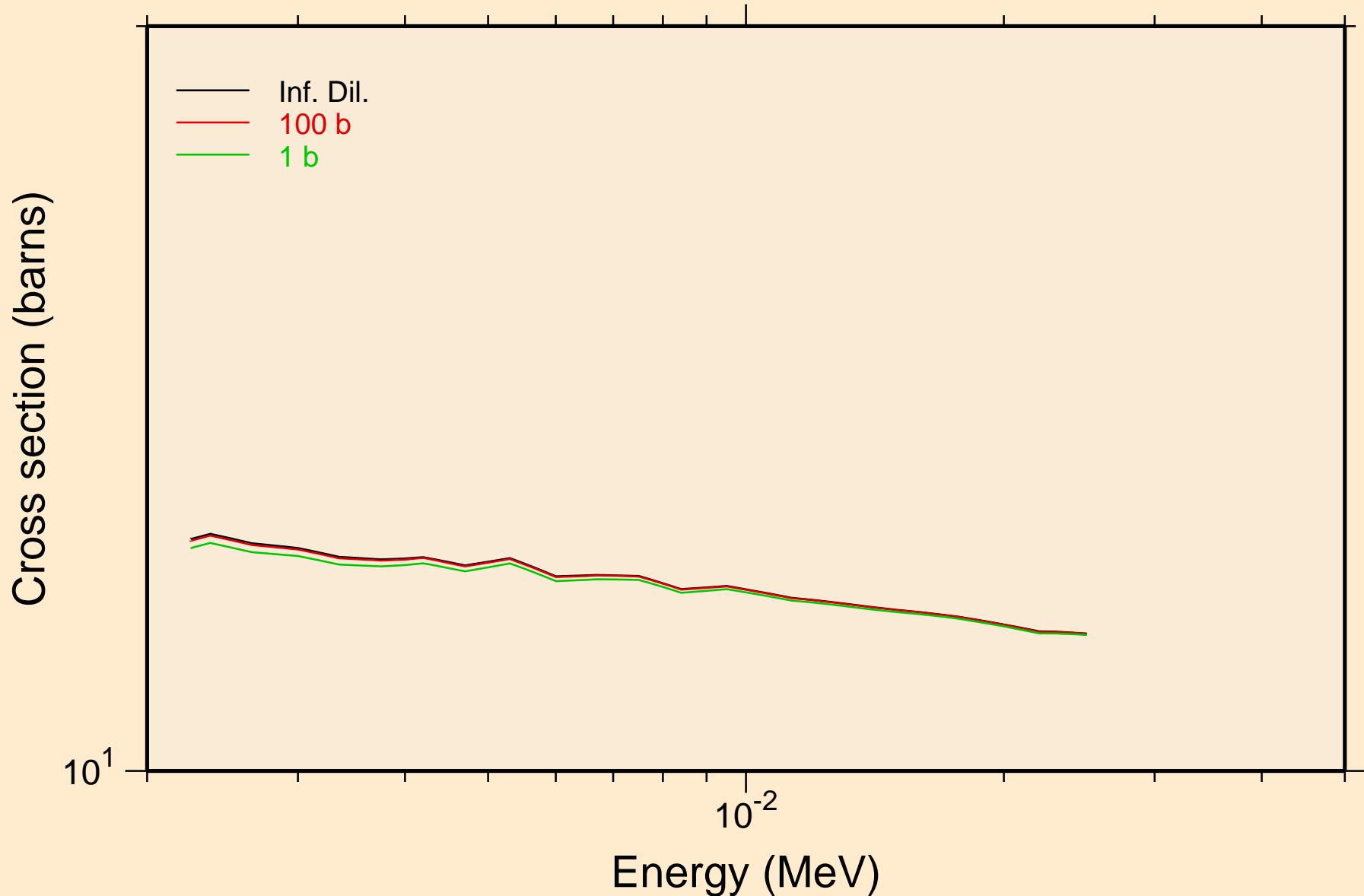
# ADVANCE CALCULATIONS

## UR total cross section



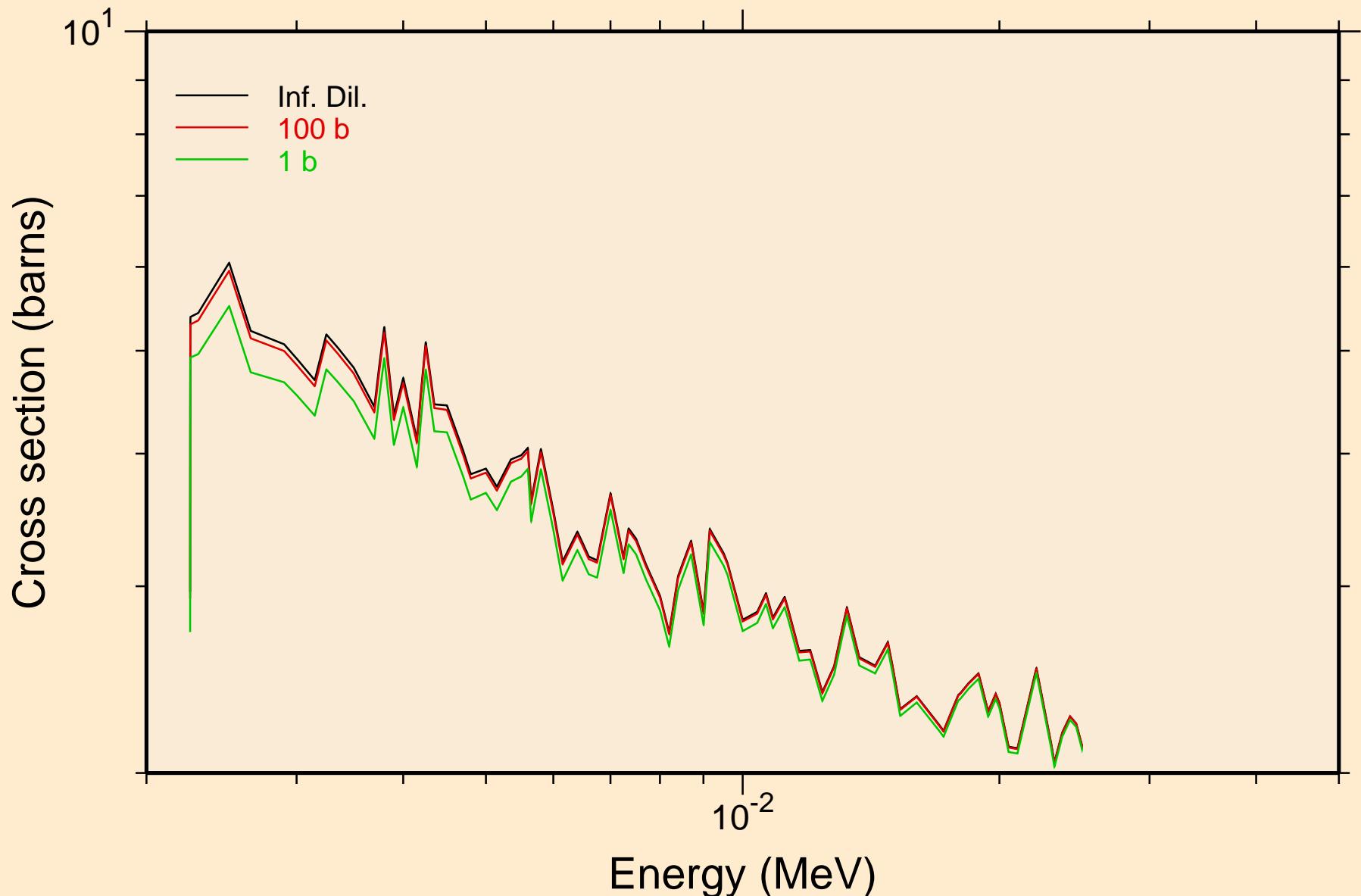
# ADVANCE CALCULATIONS

## UR elastic cross section



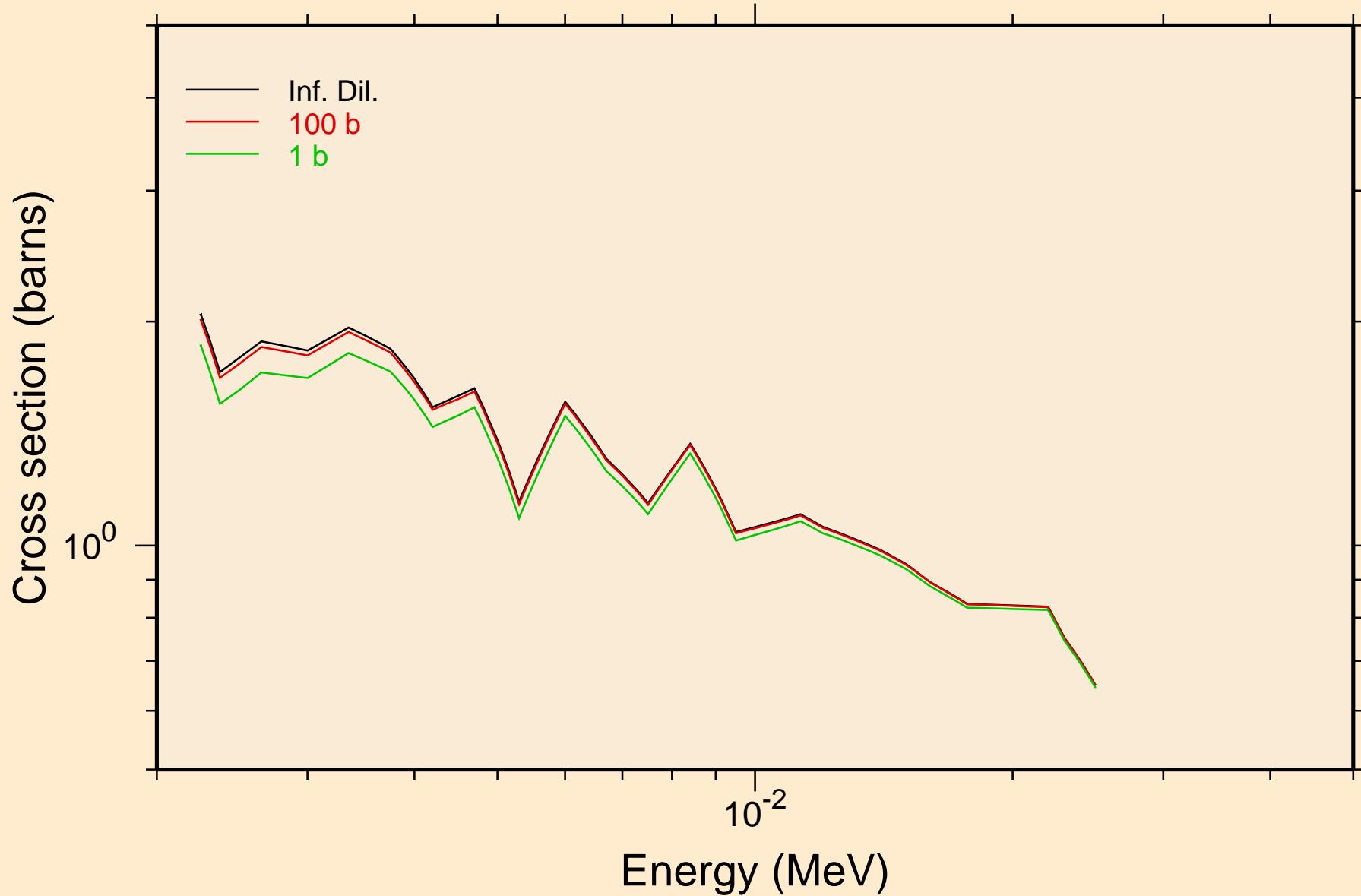
# ADVANCE CALCULATIONS

## UR fission cross section



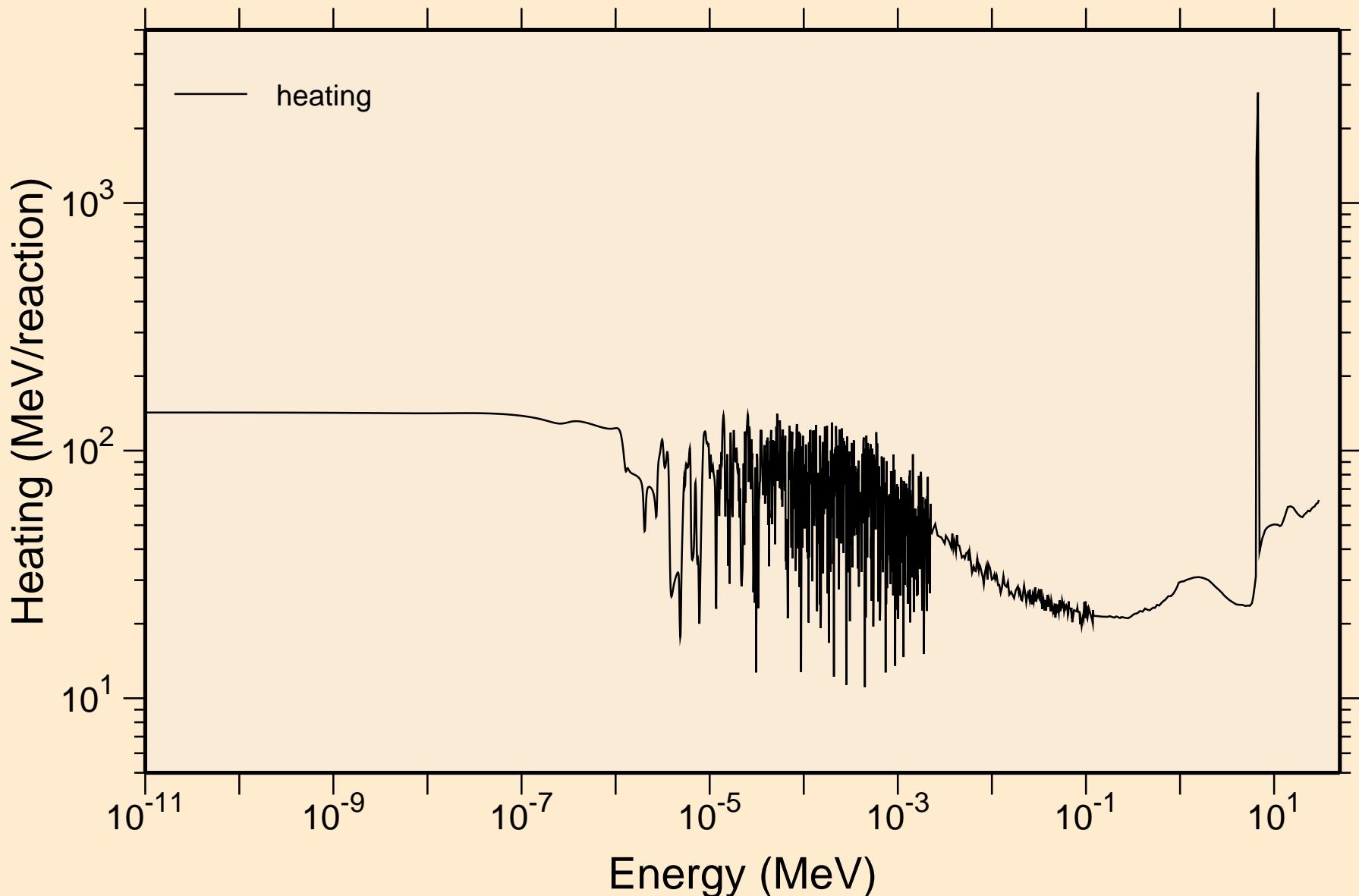
# ADVANCE CALCULATIONS

## UR capture cross section



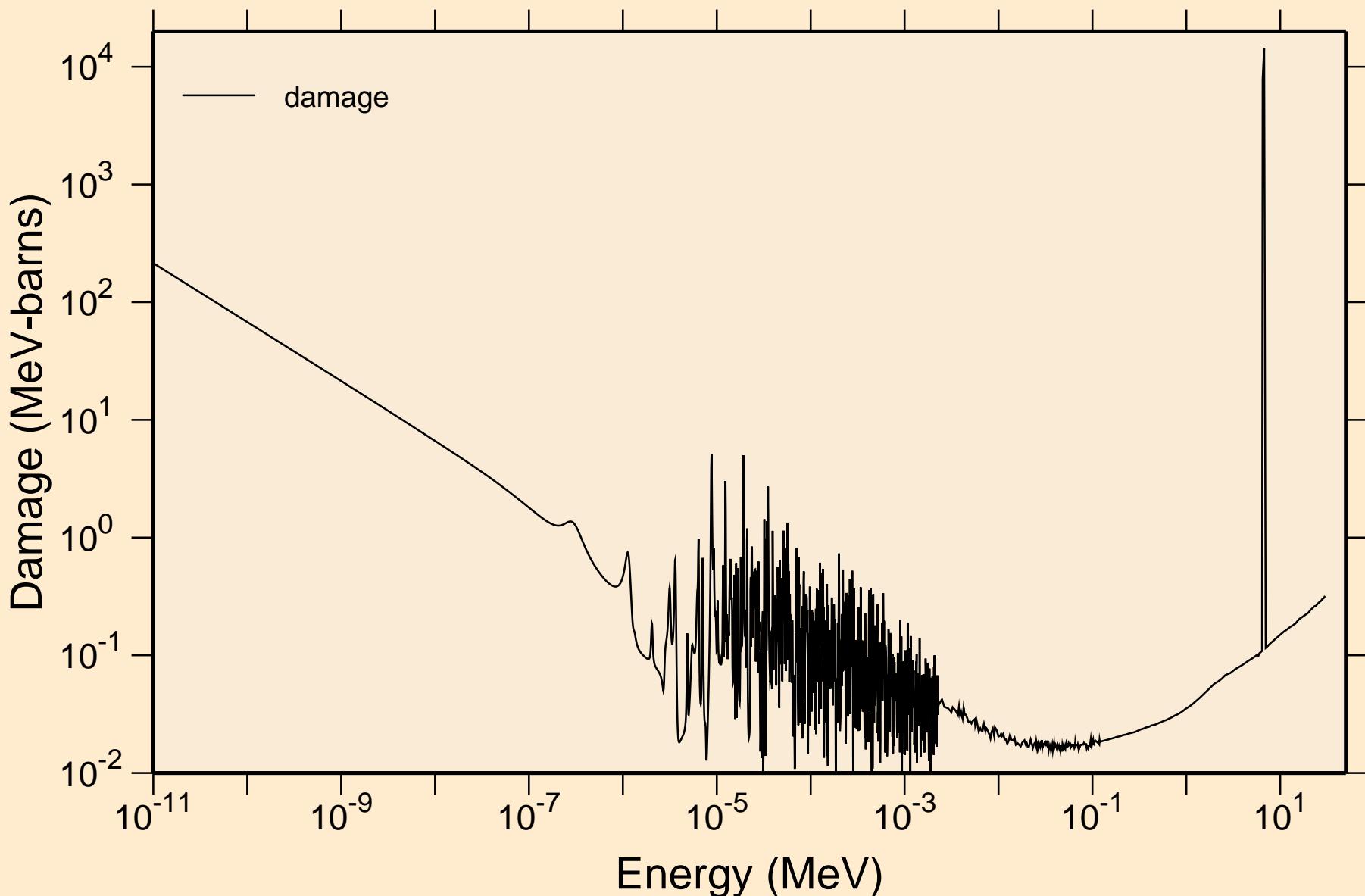
# ADVANCE CALCULATIONS

## Heating



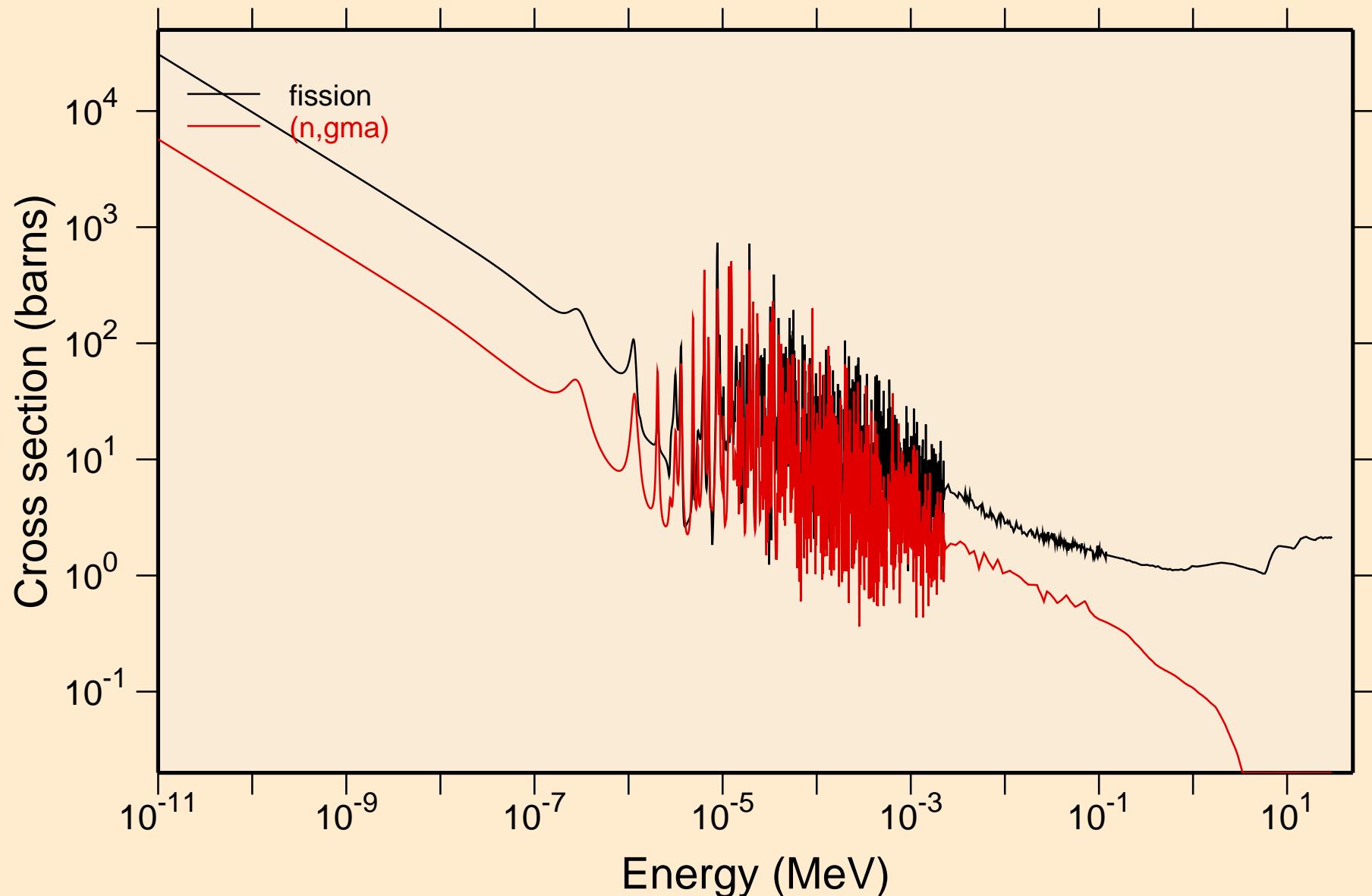
# ADVANCE CALCULATIONS

## Damage



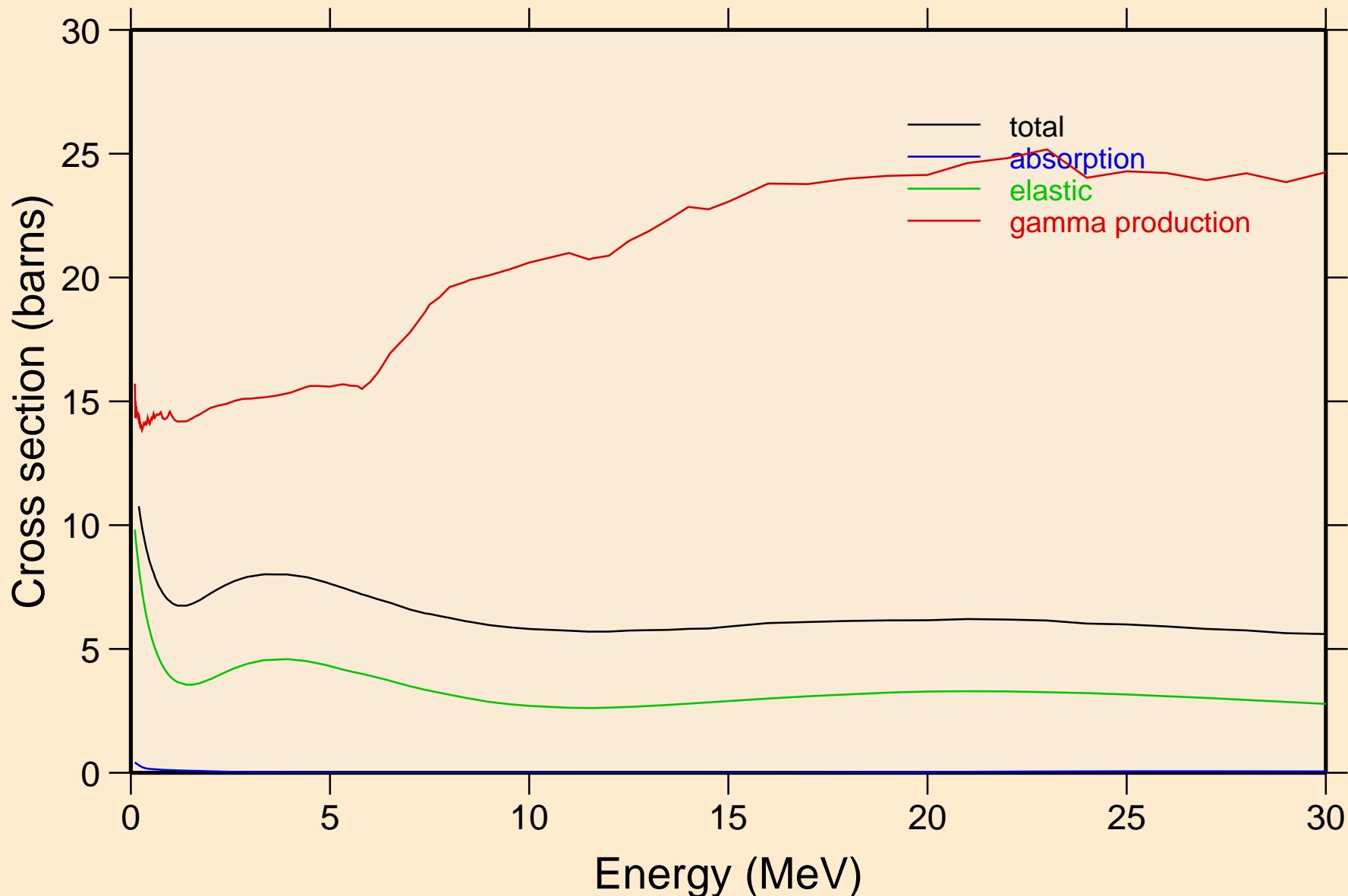
# ADVANCE CALCULATIONS

## Non-threshold reactions



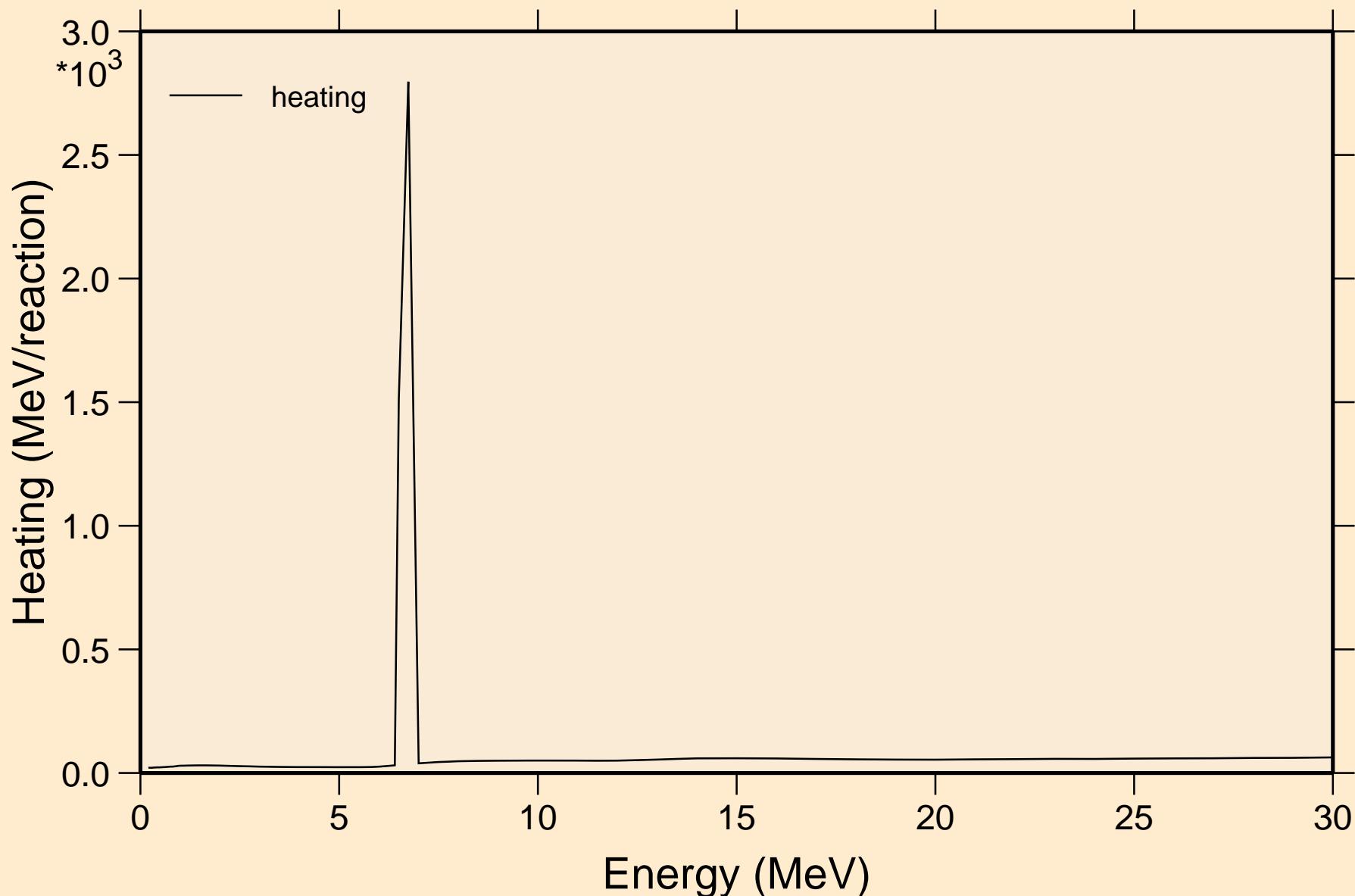
# ADVANCE CALCULATIONS

## Principal cross sections



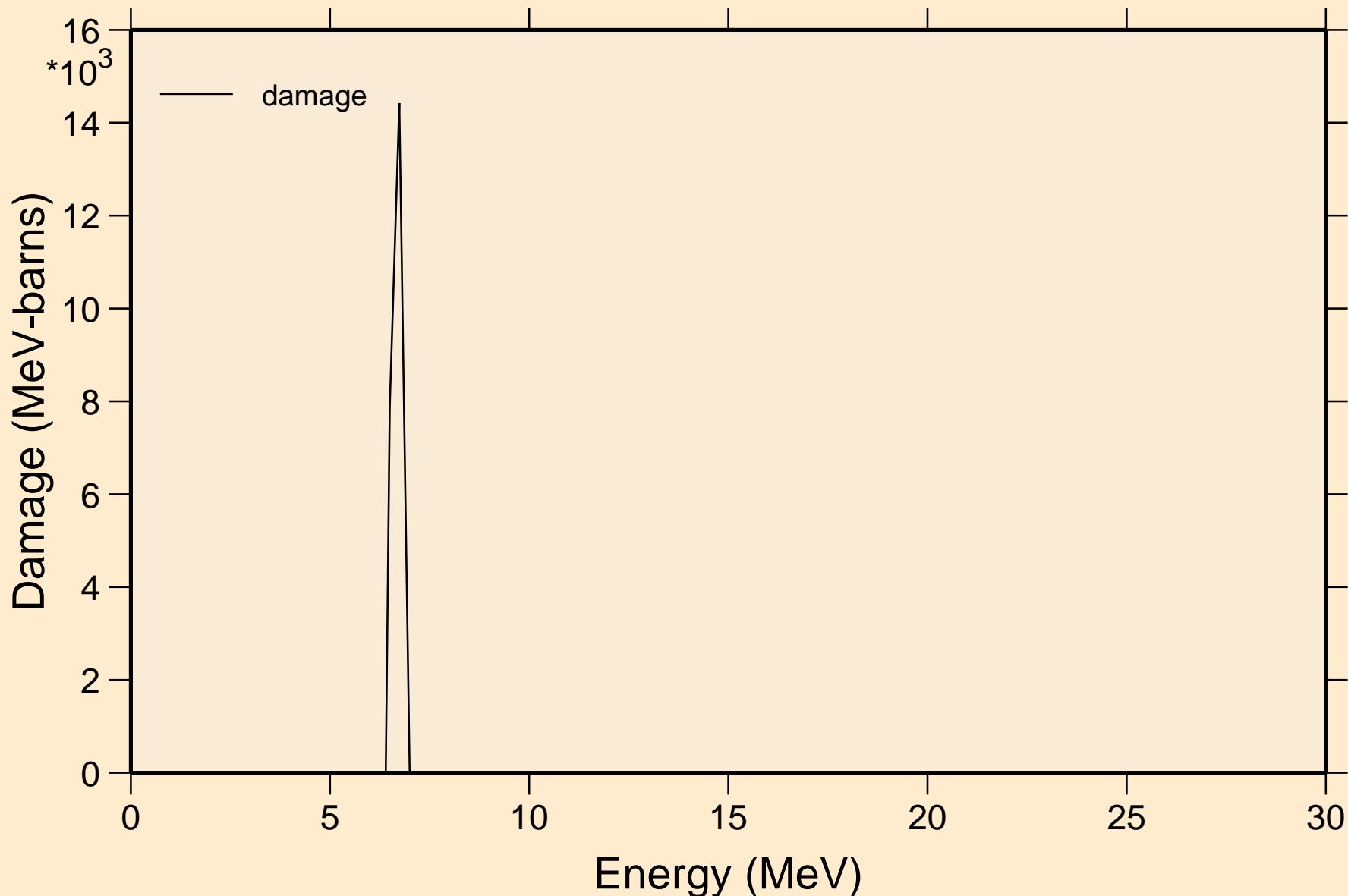
# ADVANCE CALCULATIONS

## Heating



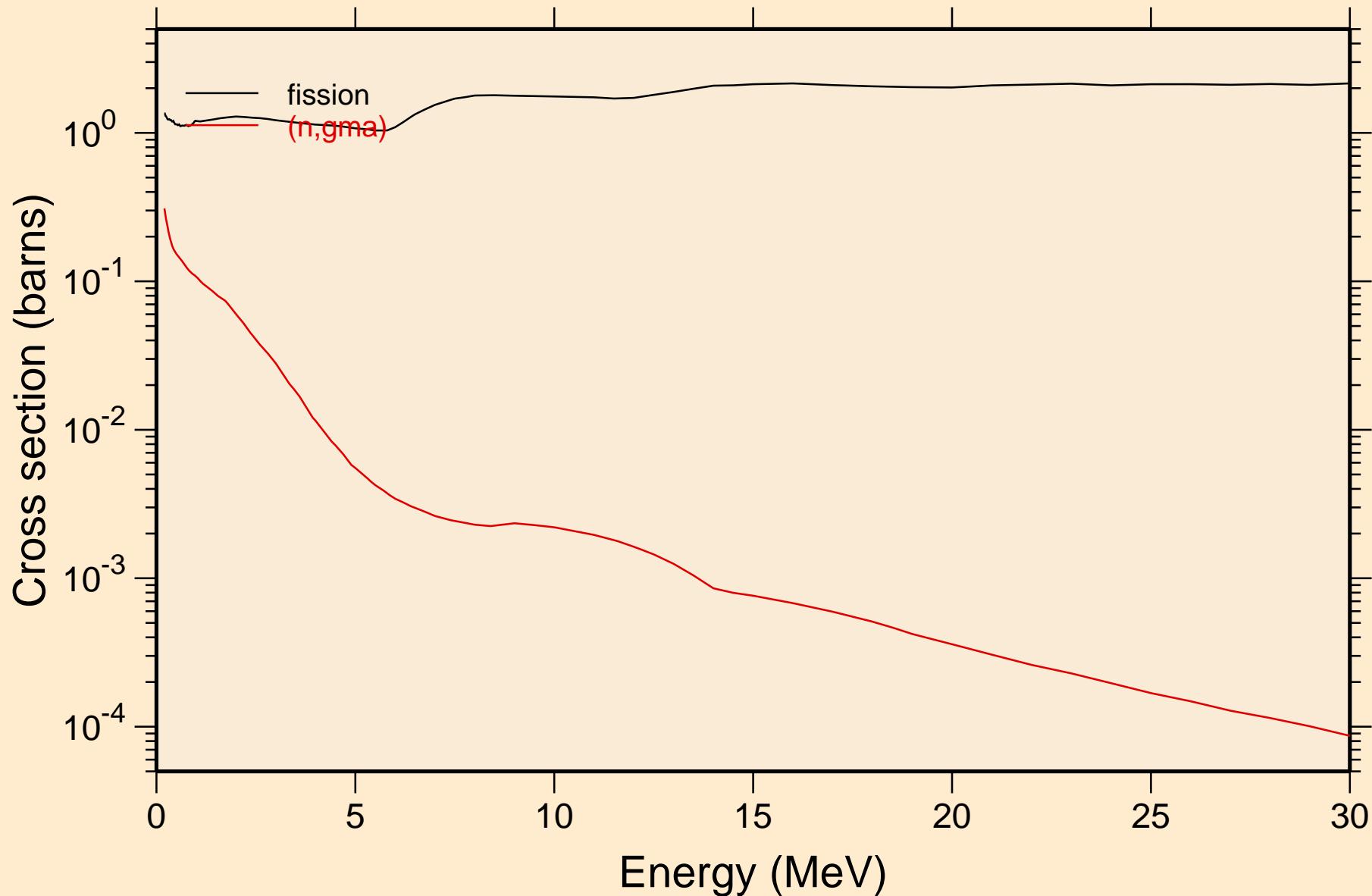
# ADVANCE CALCULATIONS

## Damage



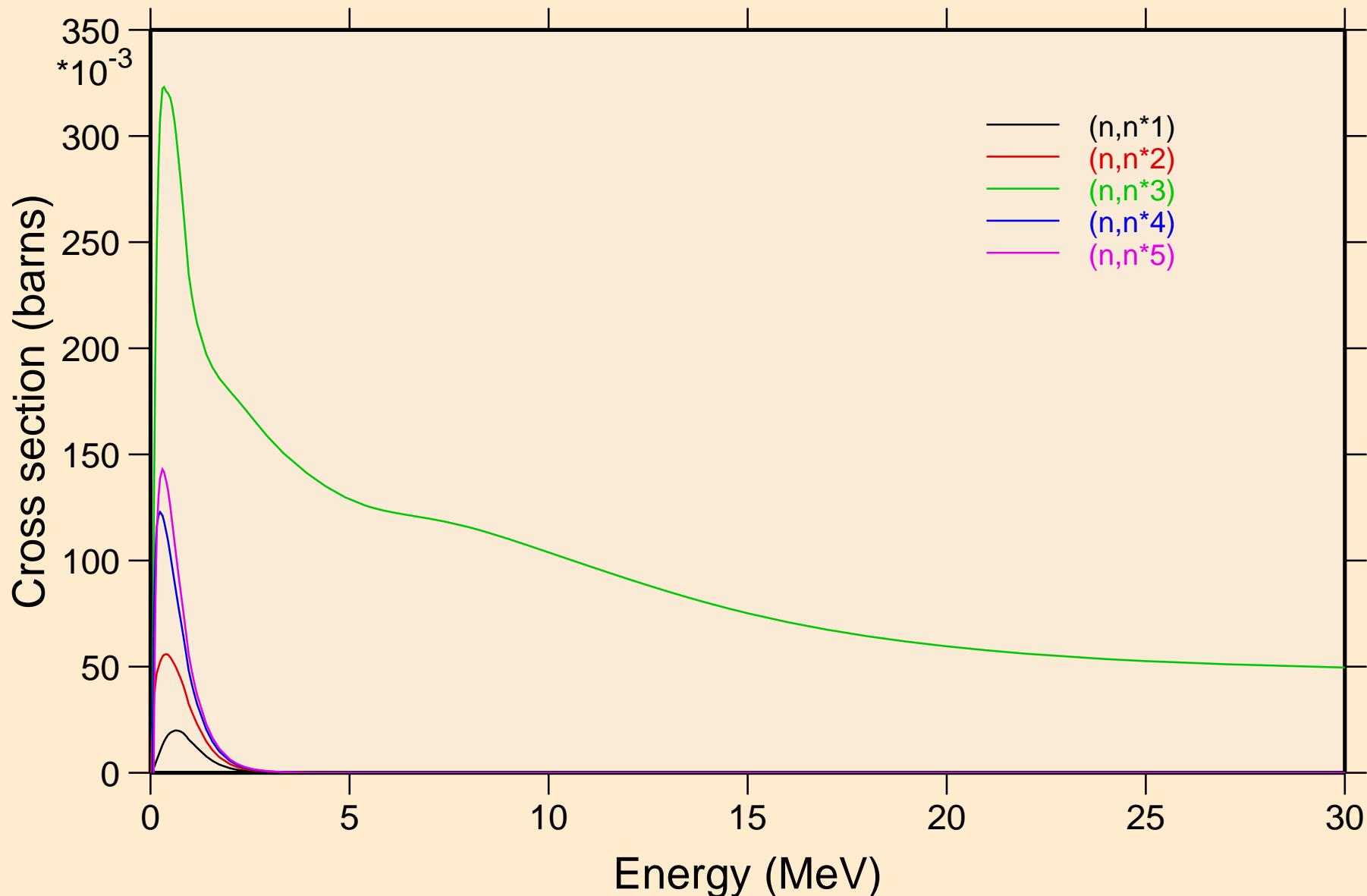
# ADVANCE CALCULATIONS

## Non-threshold reactions



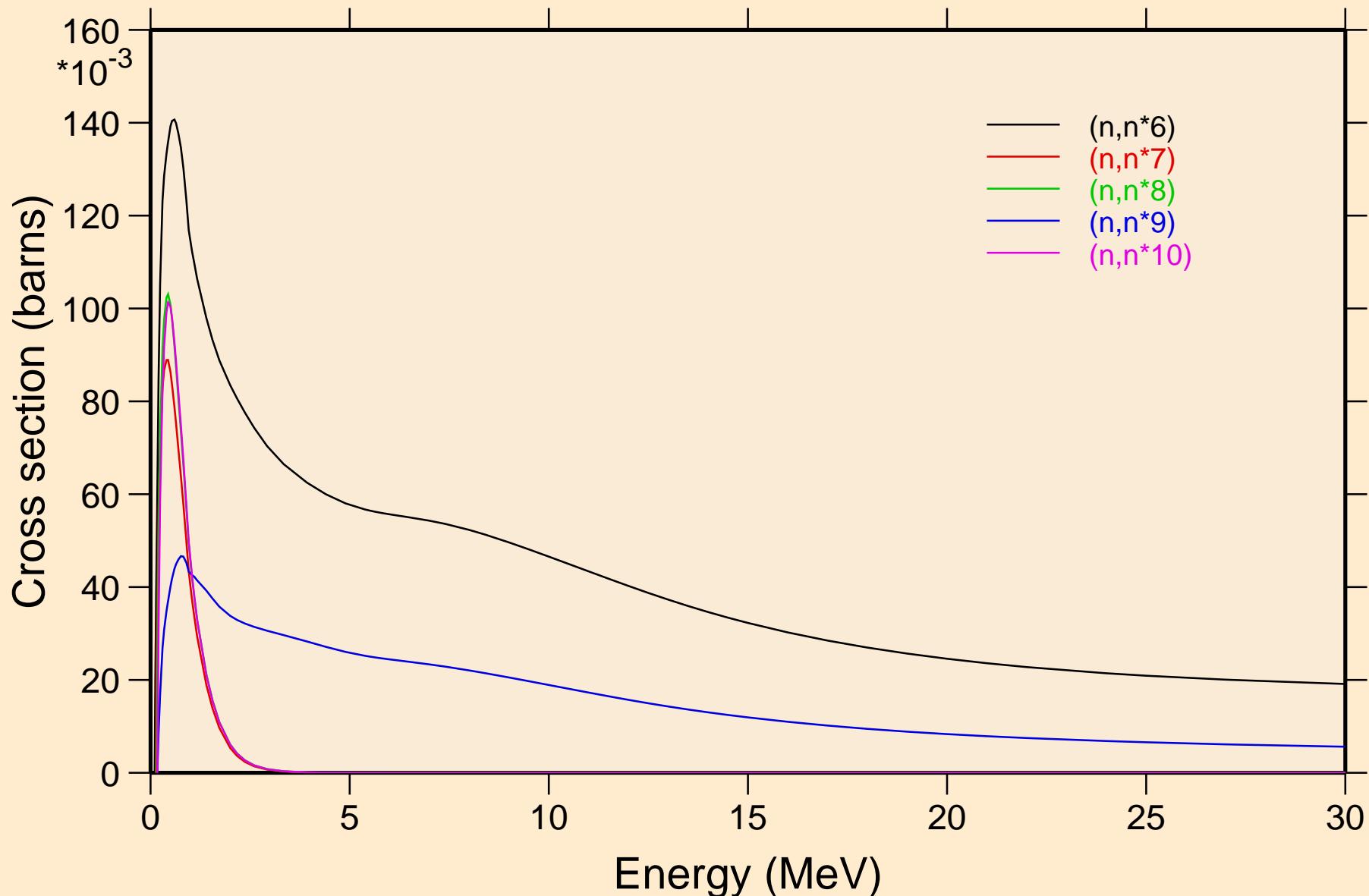
# ADVANCE CALCULATIONS

## Inelastic levels



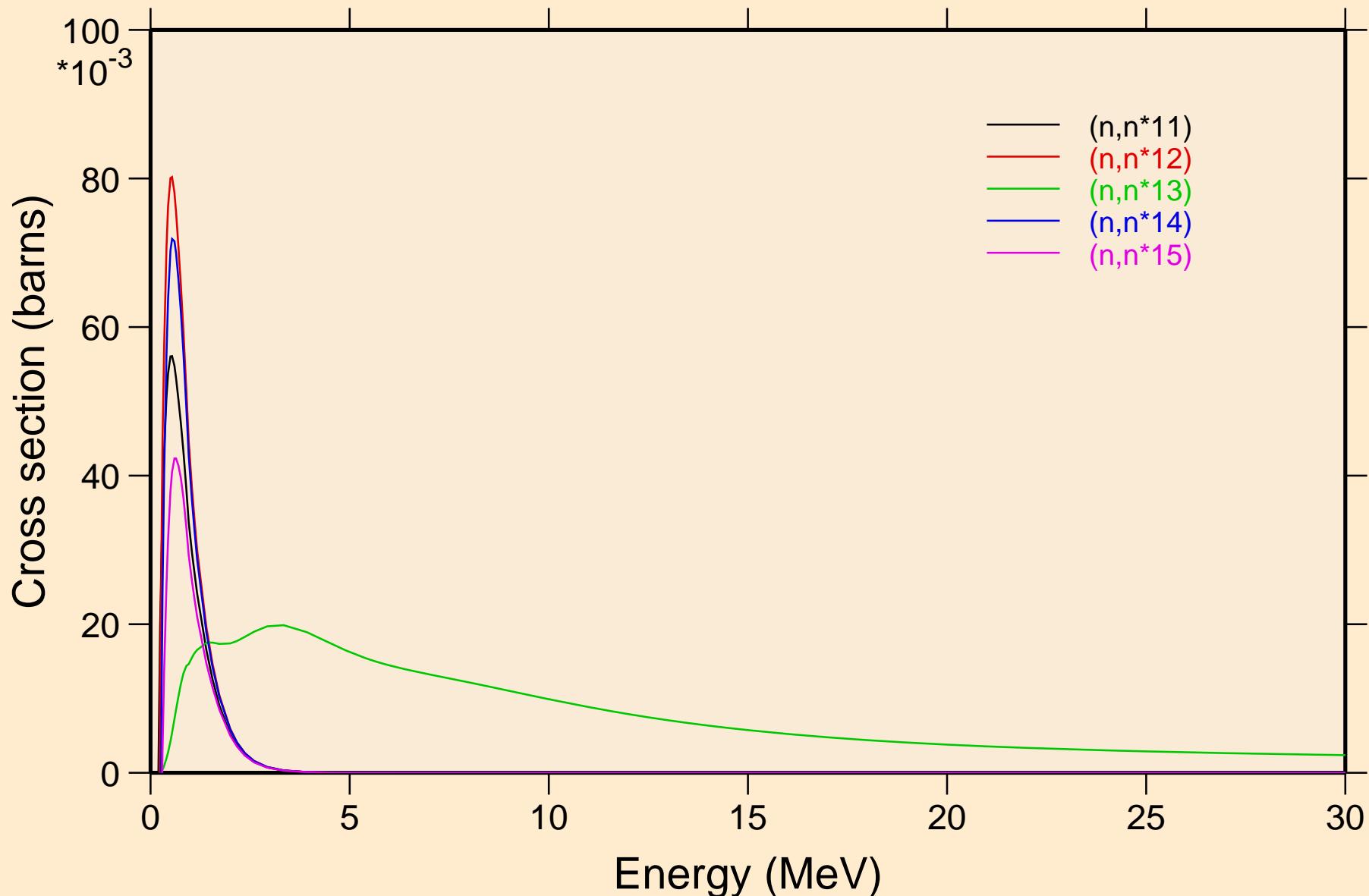
# ADVANCE CALCULATIONS

## Inelastic levels



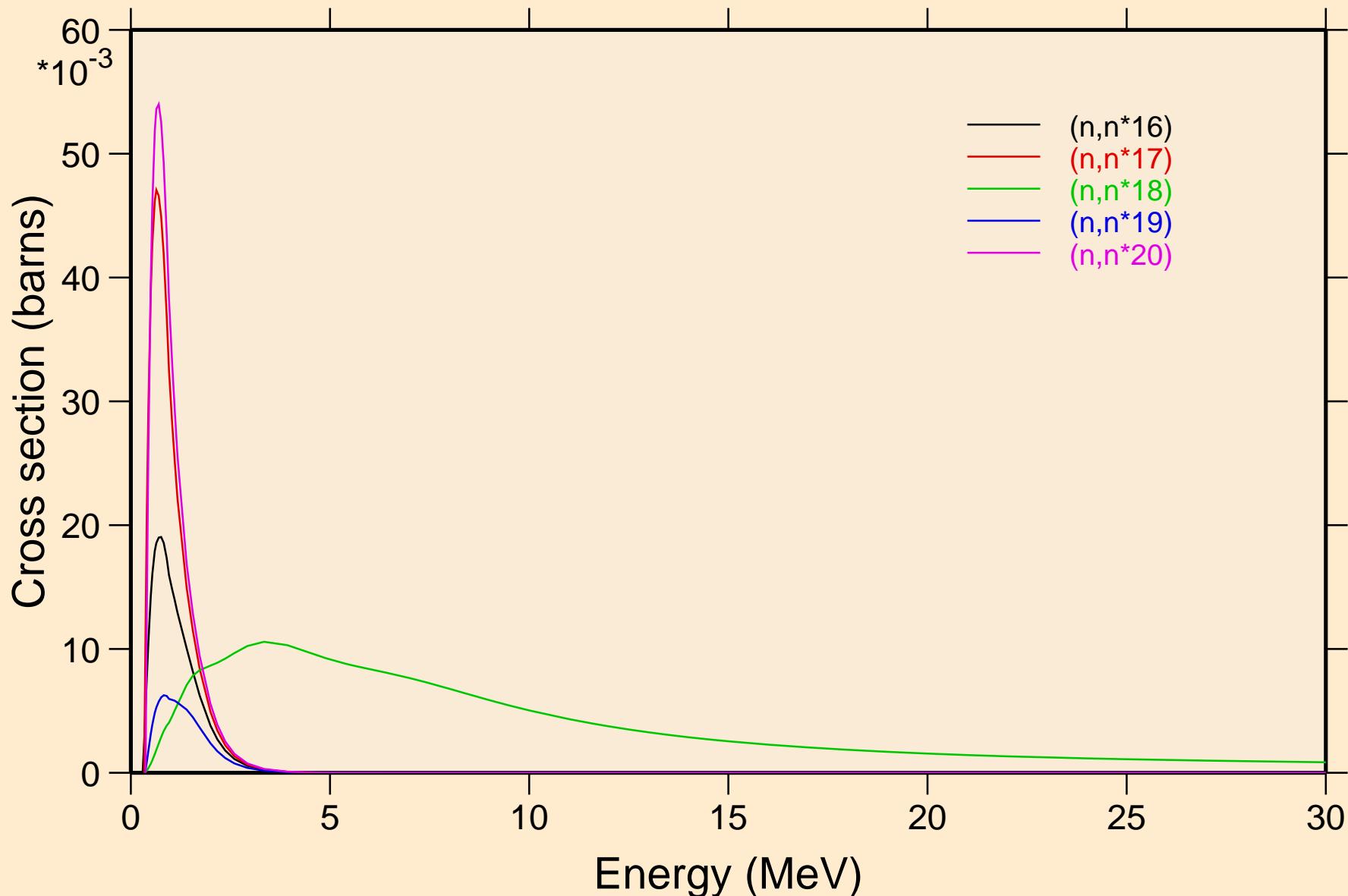
# ADVANCE CALCULATIONS

## Inelastic levels



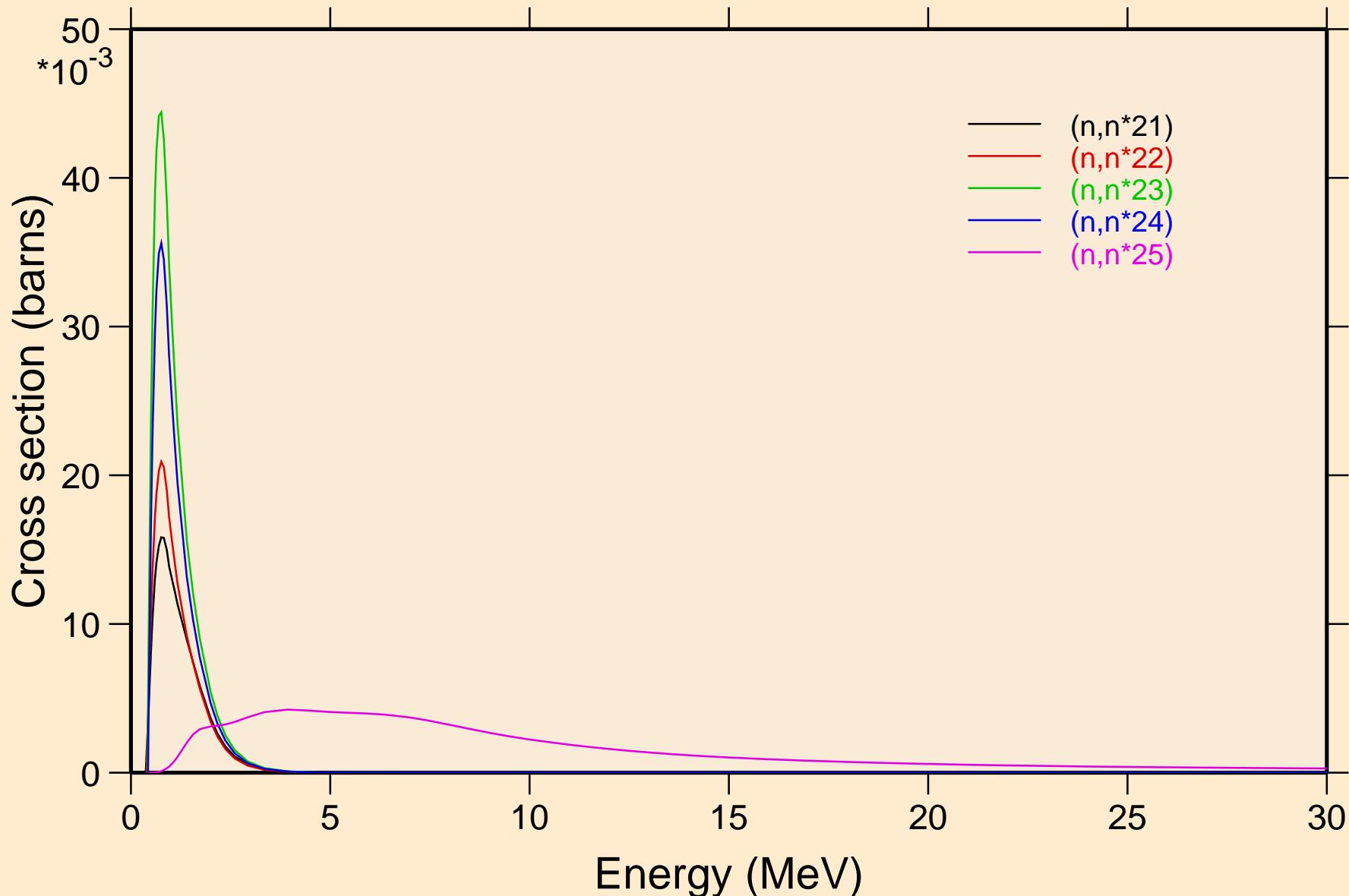
# ADVANCE CALCULATIONS

## Inelastic levels



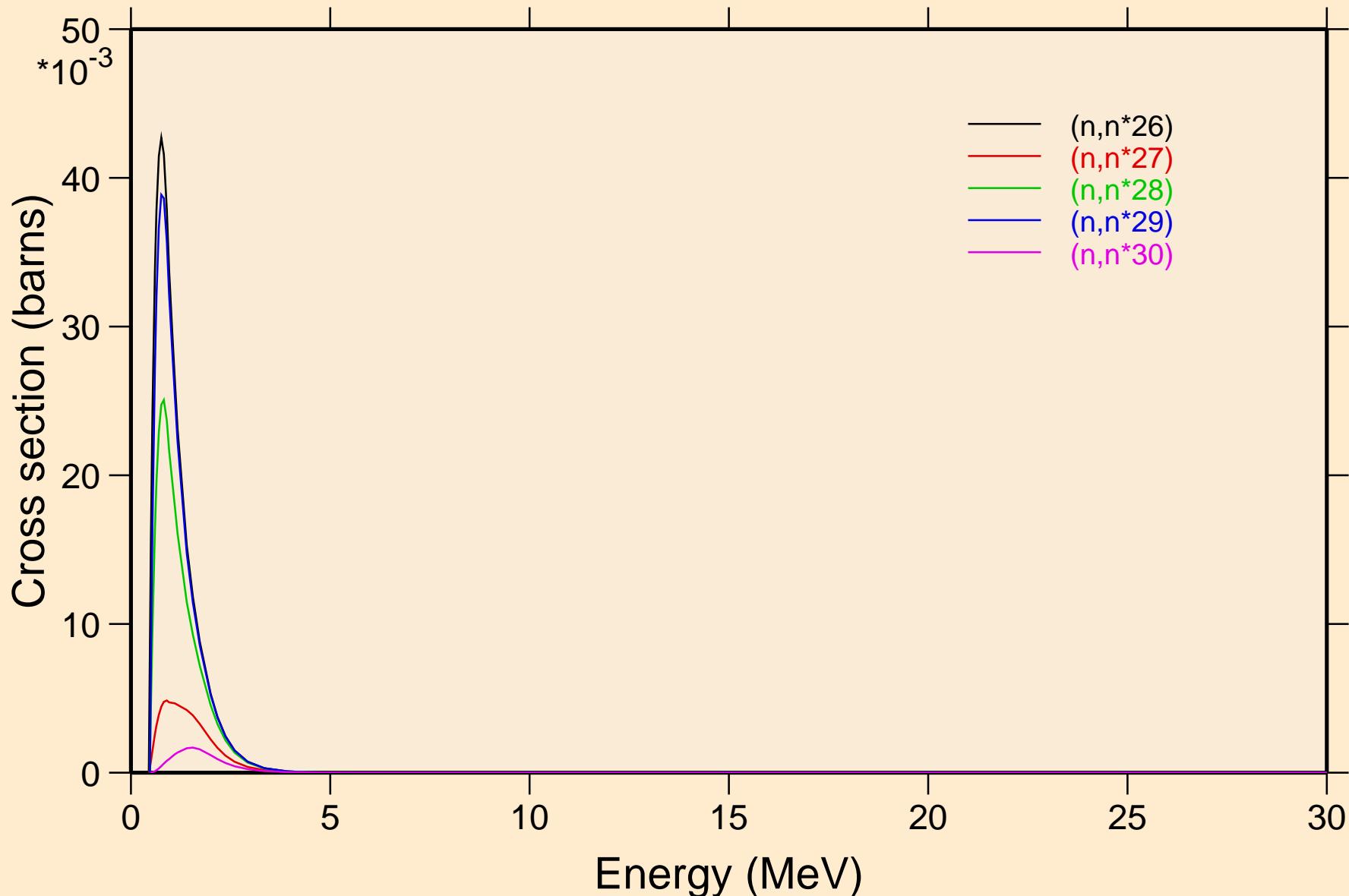
# ADVANCE CALCULATIONS

## Inelastic levels



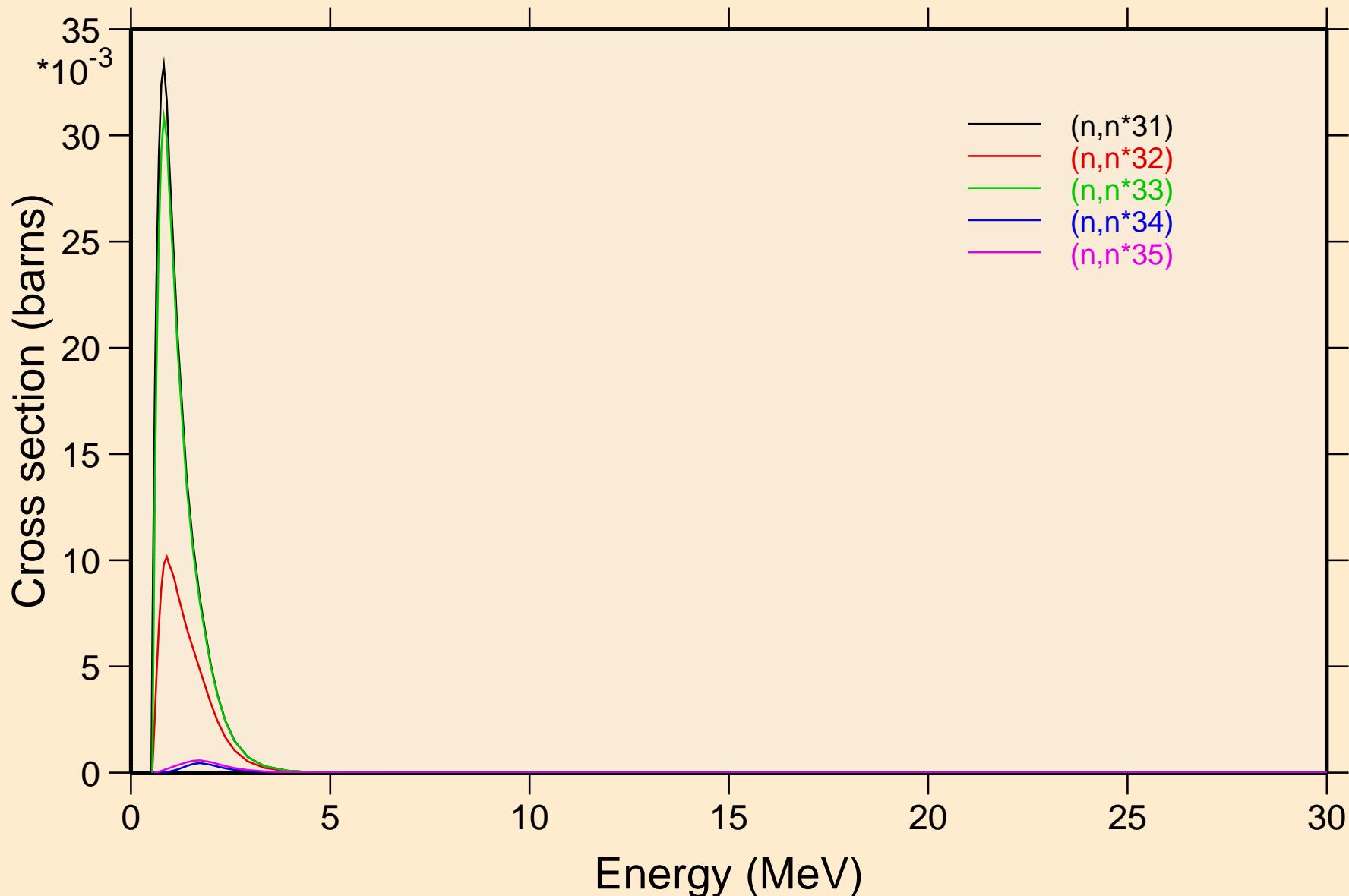
# ADVANCE CALCULATIONS

## Inelastic levels



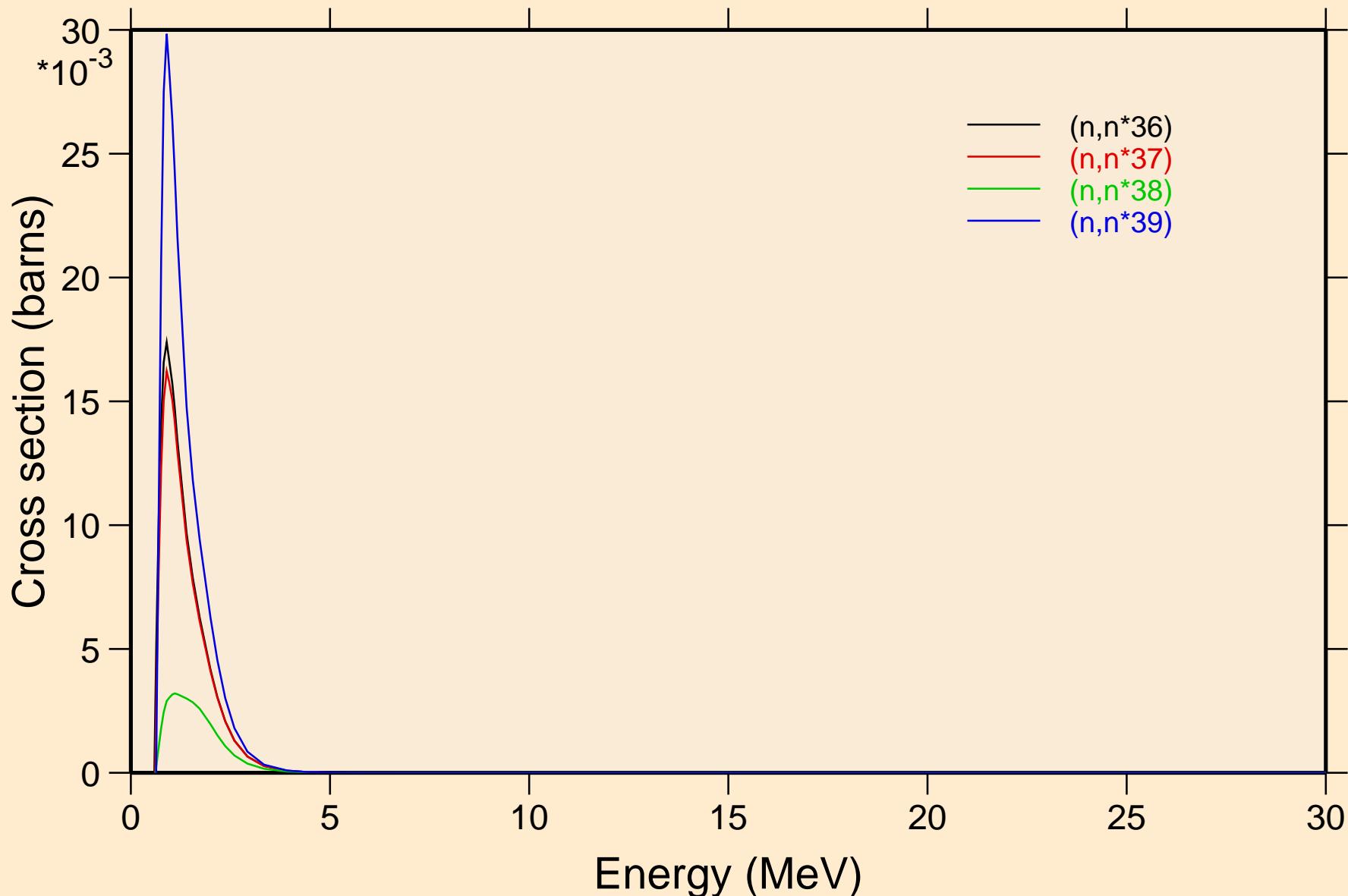
# ADVANCE CALCULATIONS

## Inelastic levels



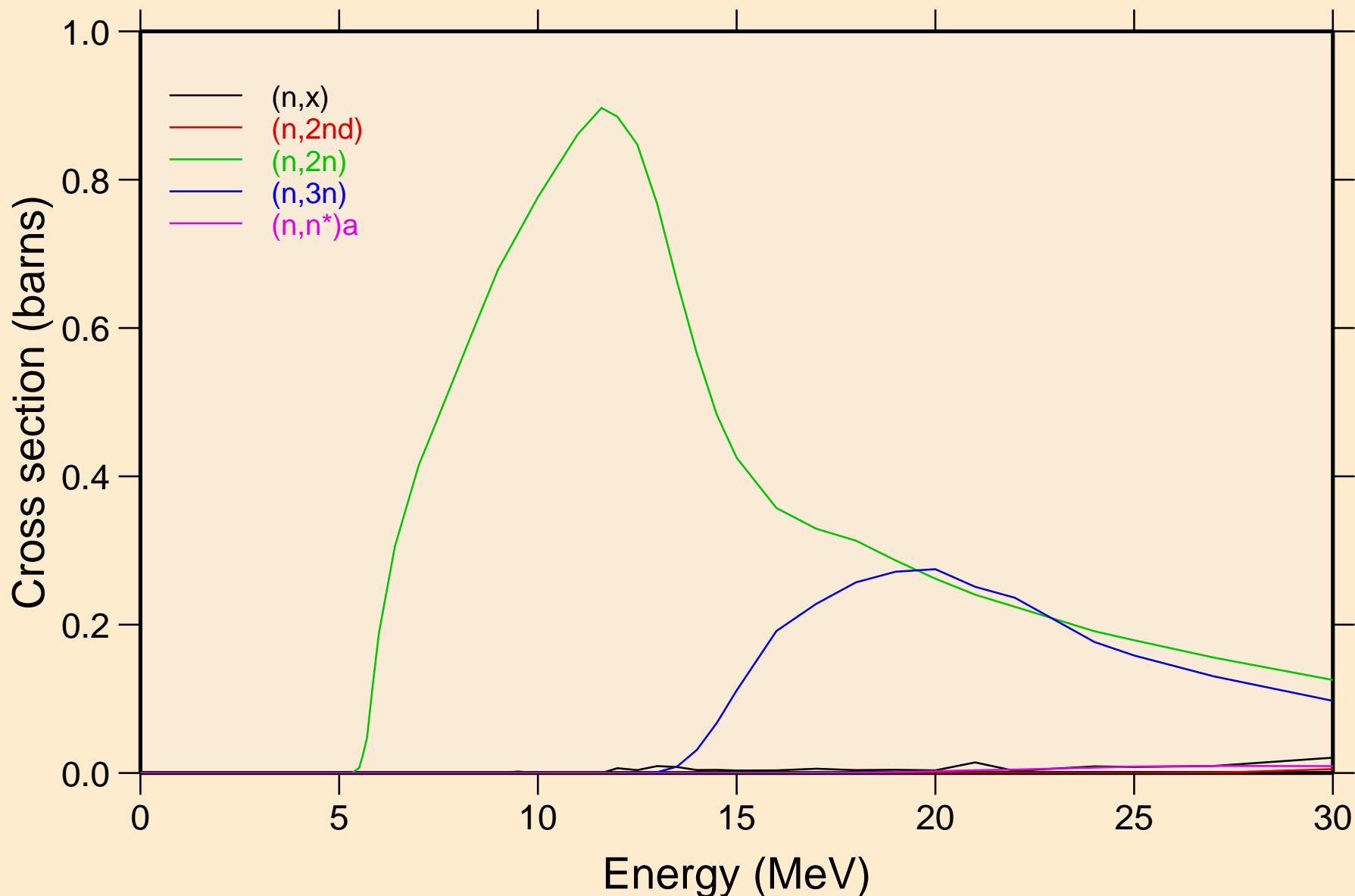
# ADVANCE CALCULATIONS

## Inelastic levels



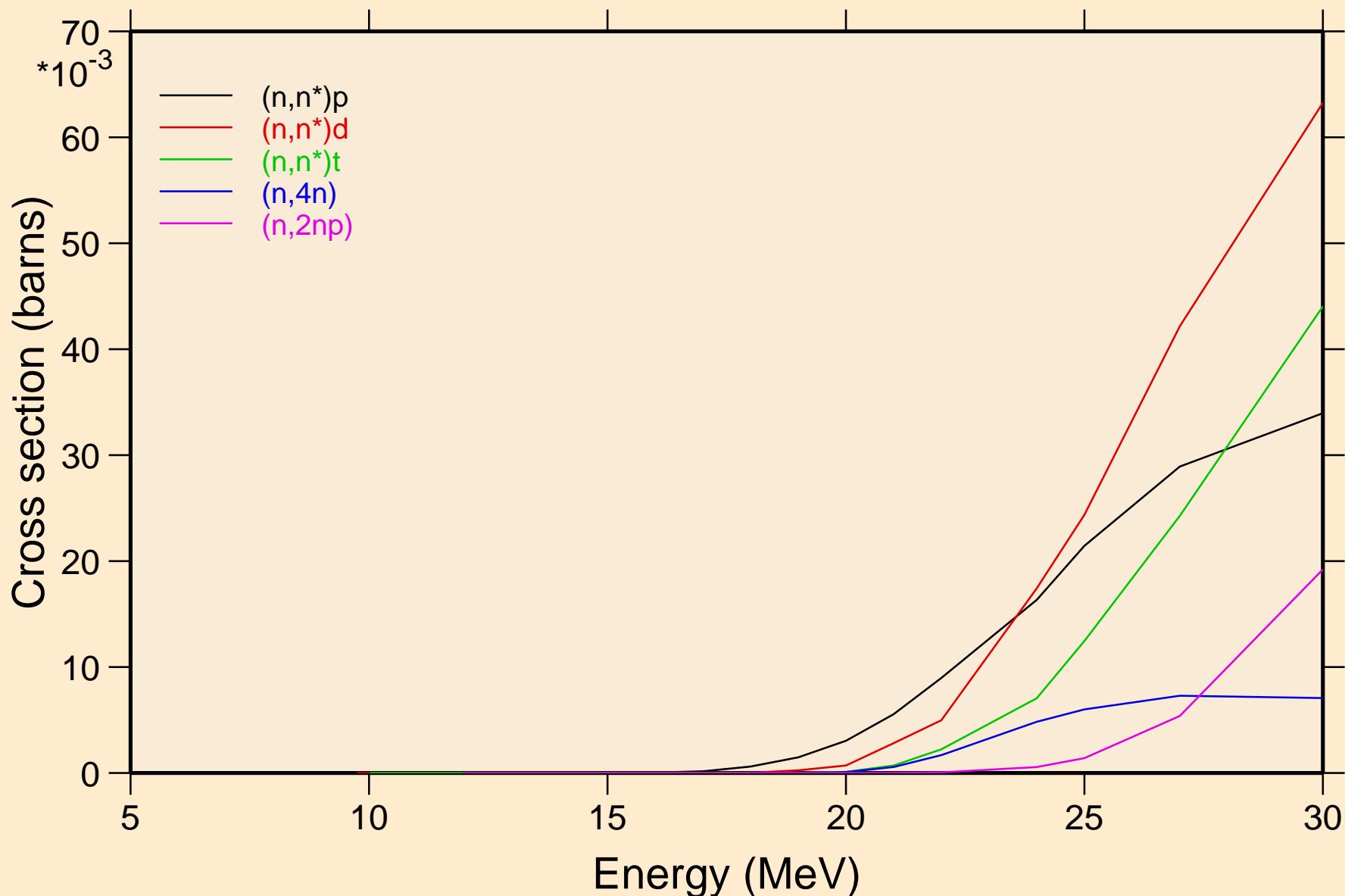
# ADVANCE CALCULATIONS

## Threshold reactions



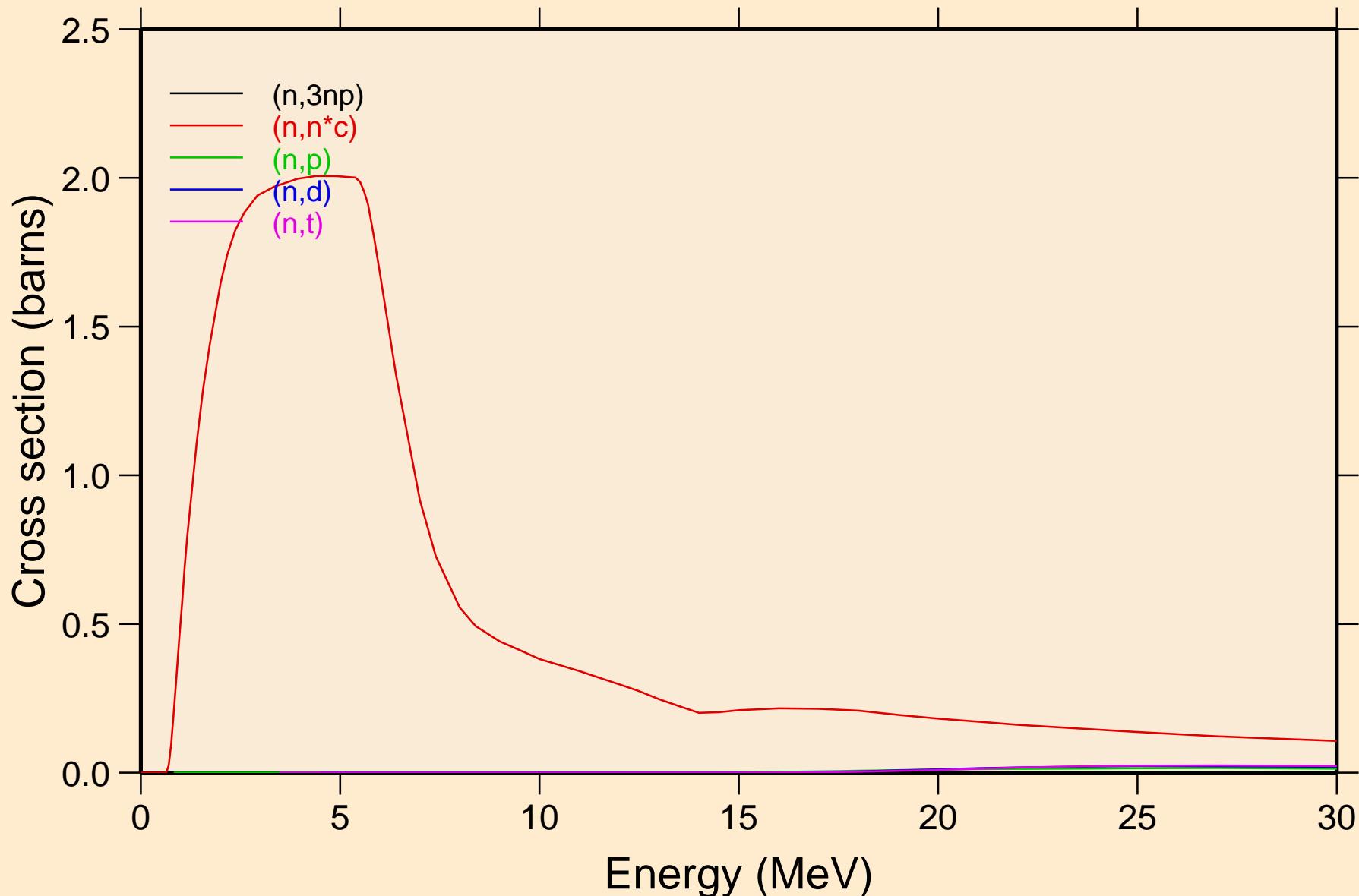
# ADVANCE CALCULATIONS

## Threshold reactions



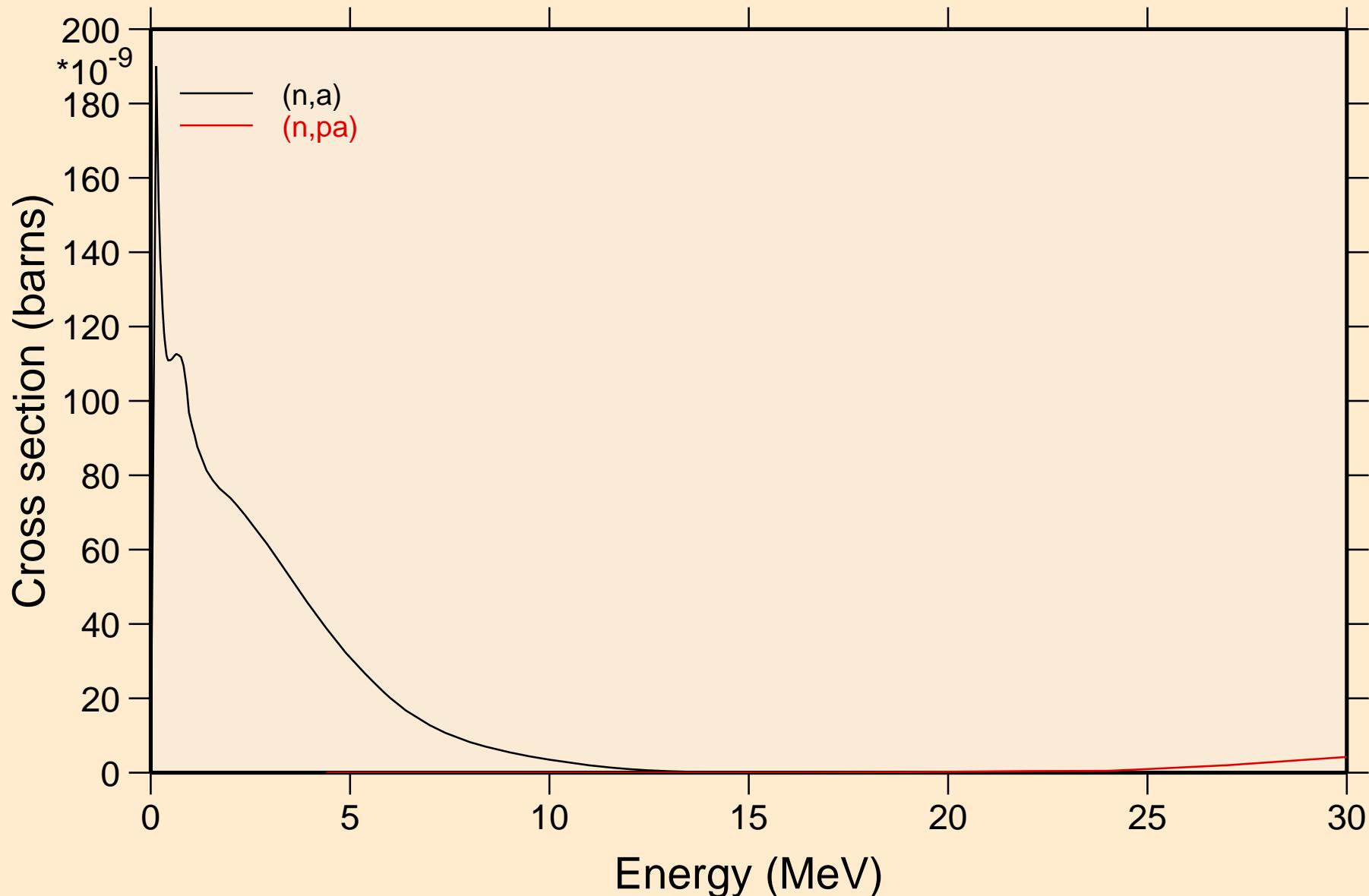
# ADVANCE CALCULATIONS

## Threshold reactions



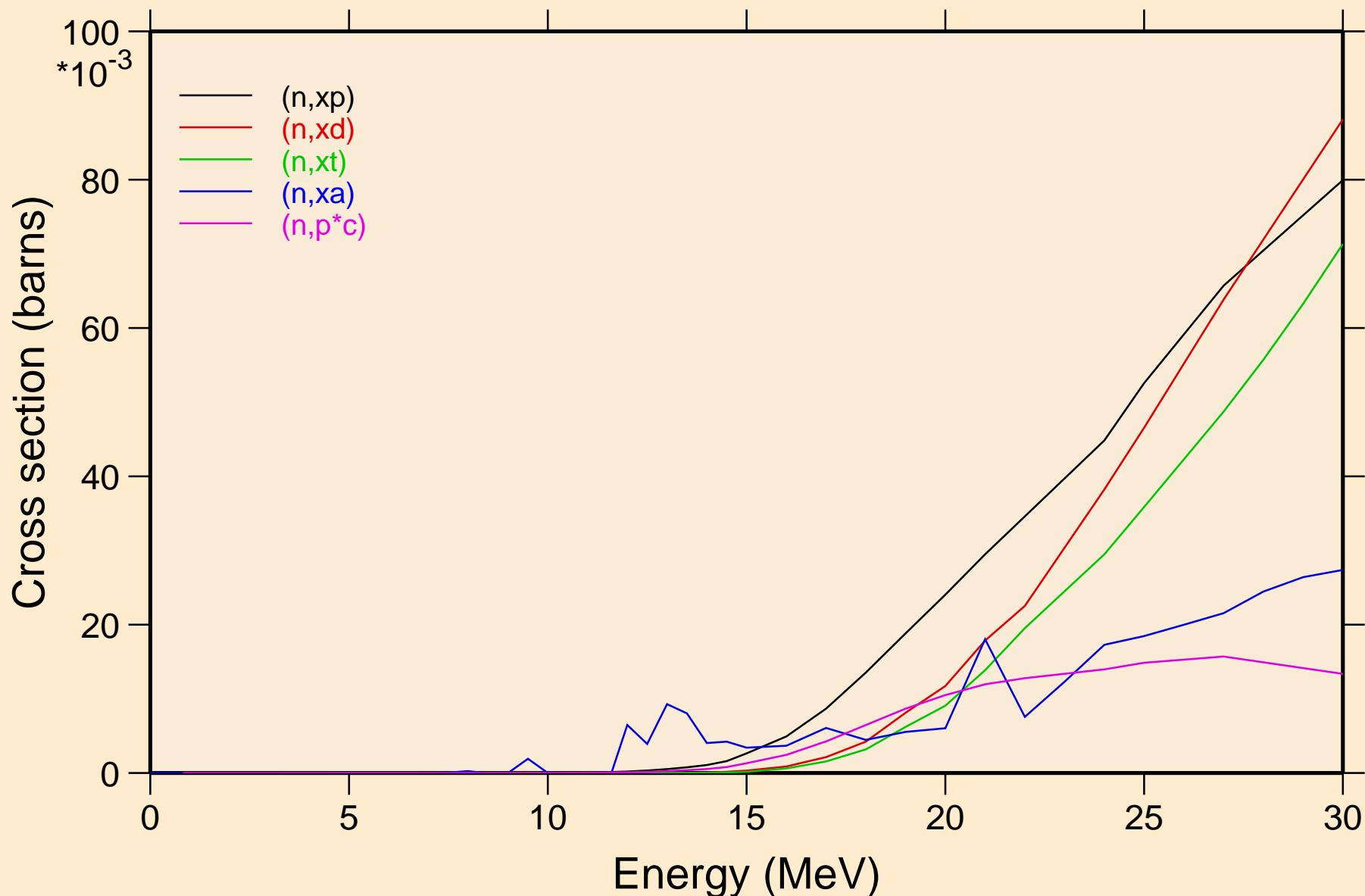
# ADVANCE CALCULATIONS

## Threshold reactions



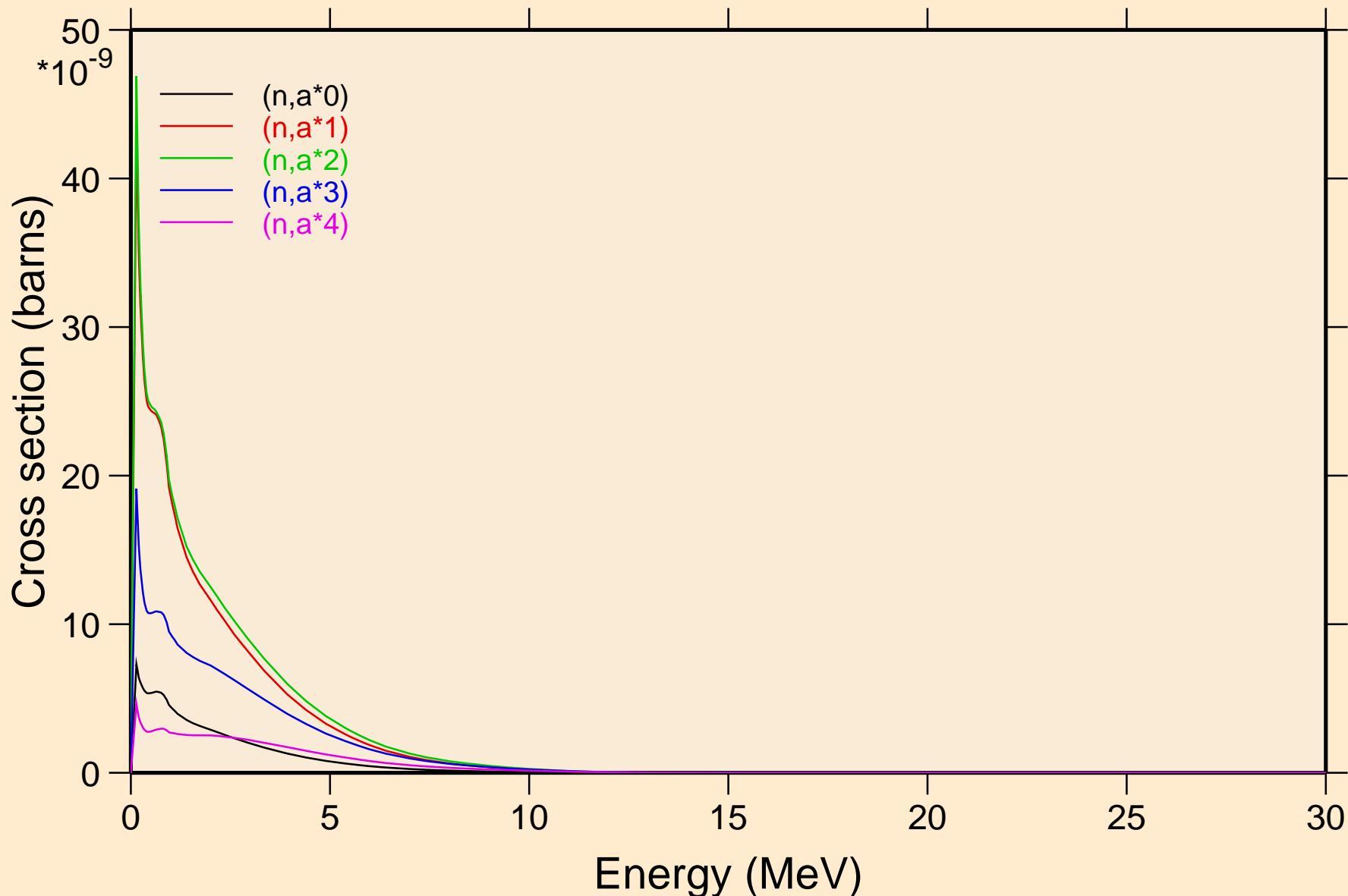
# ADVANCE CALCULATIONS

## Threshold reactions



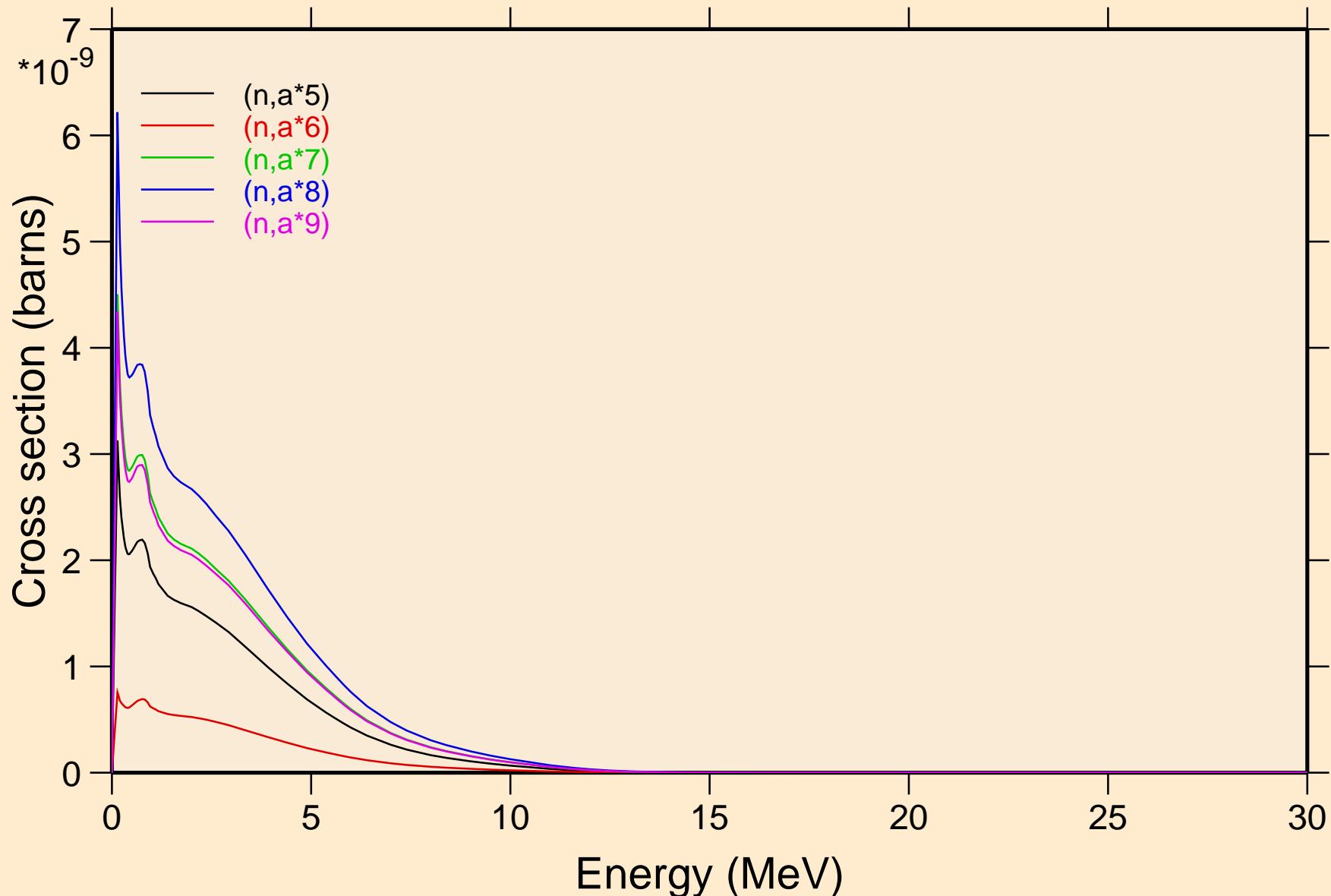
# ADVANCE CALCULATIONS

## Threshold reactions



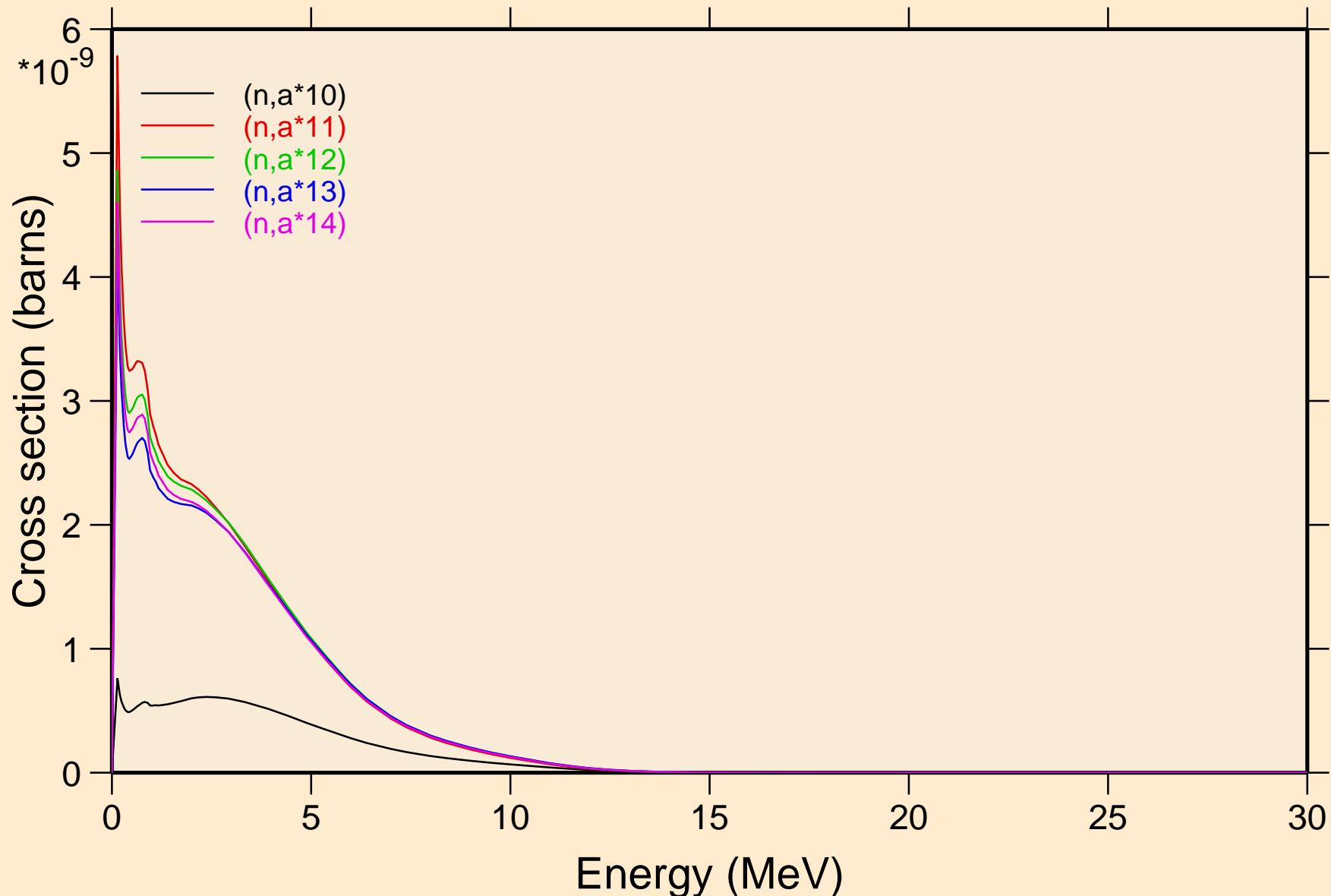
# ADVANCE CALCULATIONS

## Threshold reactions



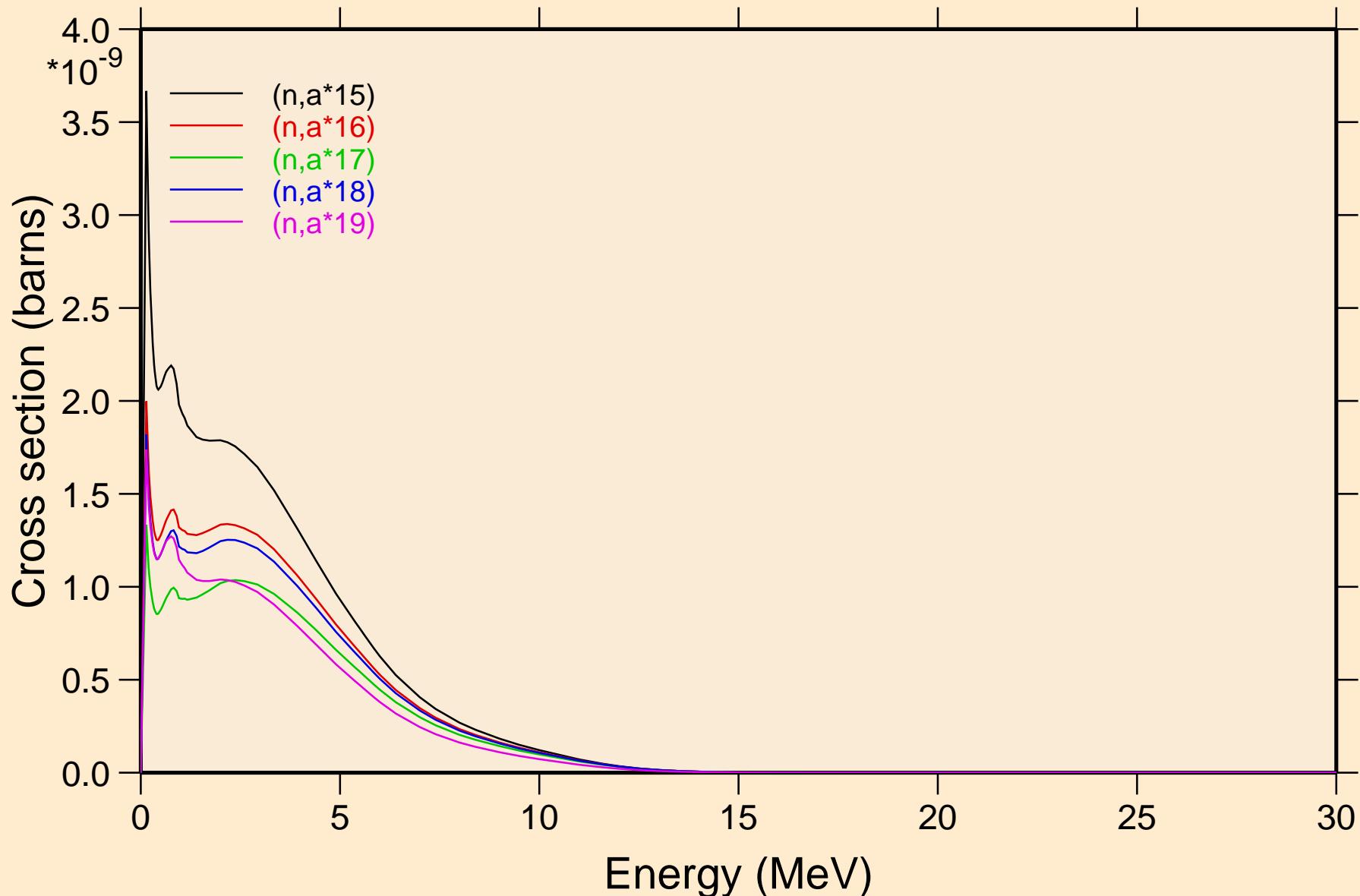
# ADVANCE CALCULATIONS

## Threshold reactions



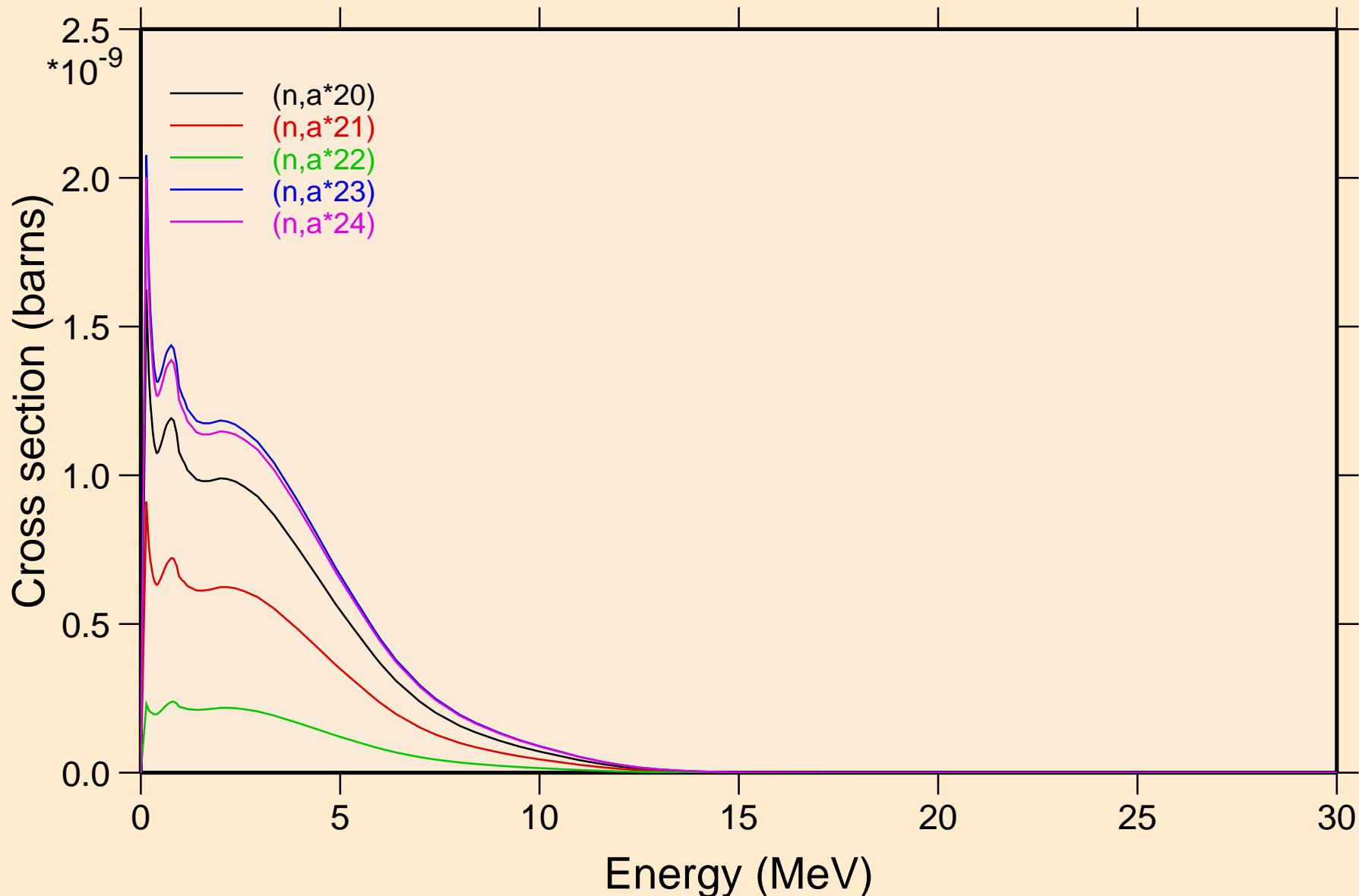
# ADVANCE CALCULATIONS

## Threshold reactions



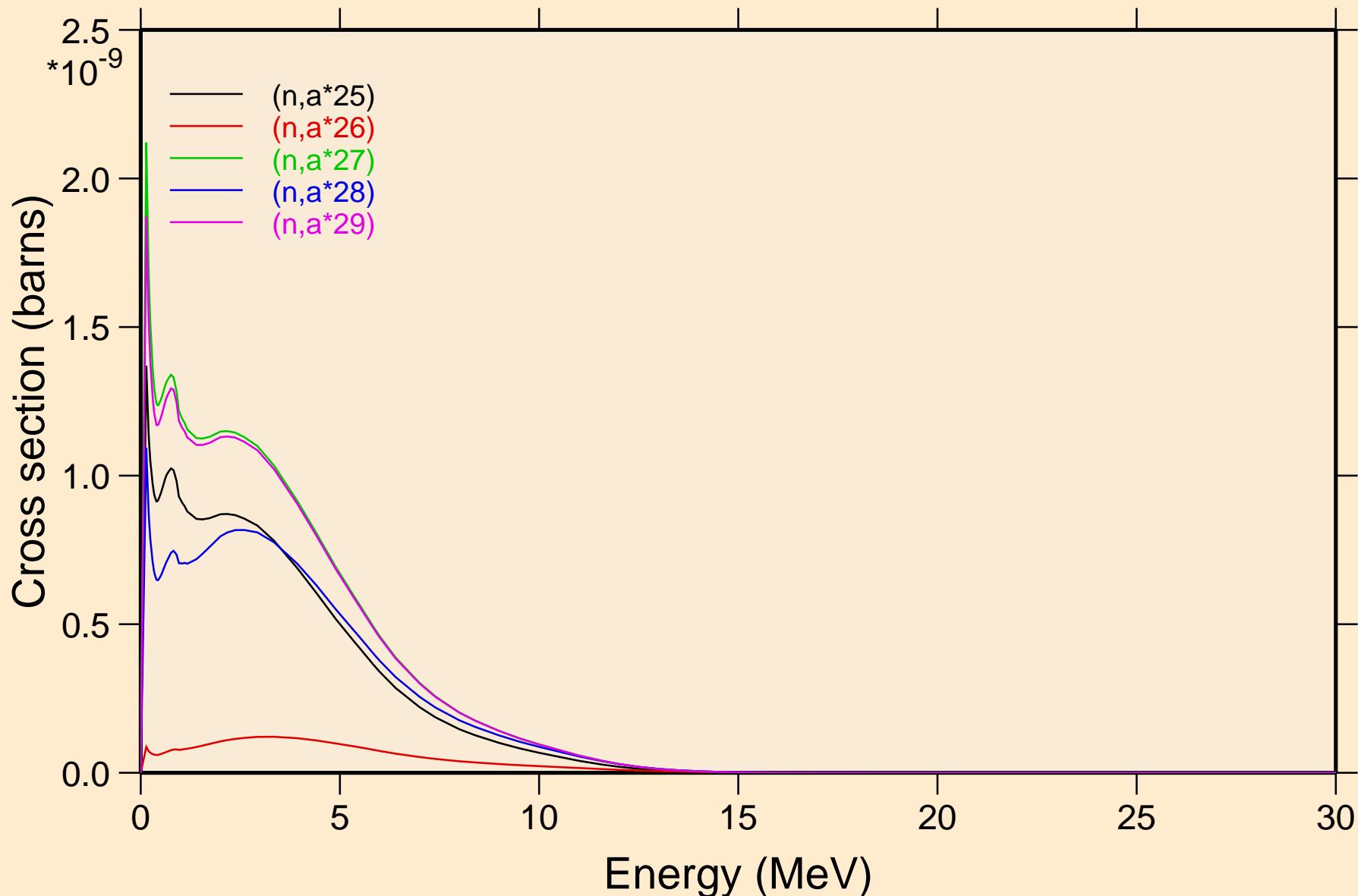
# ADVANCE CALCULATIONS

## Threshold reactions



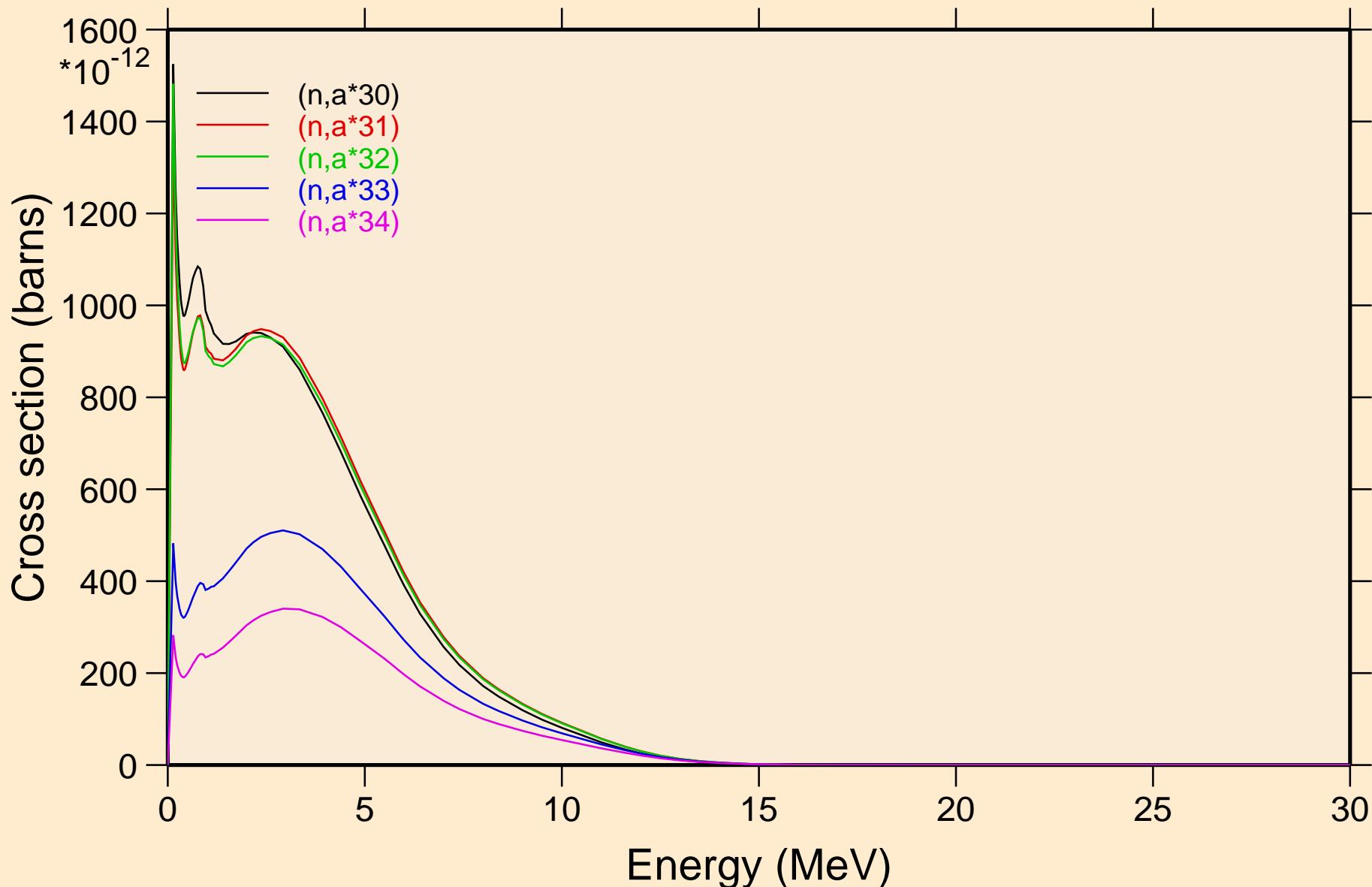
# ADVANCE CALCULATIONS

## Threshold reactions



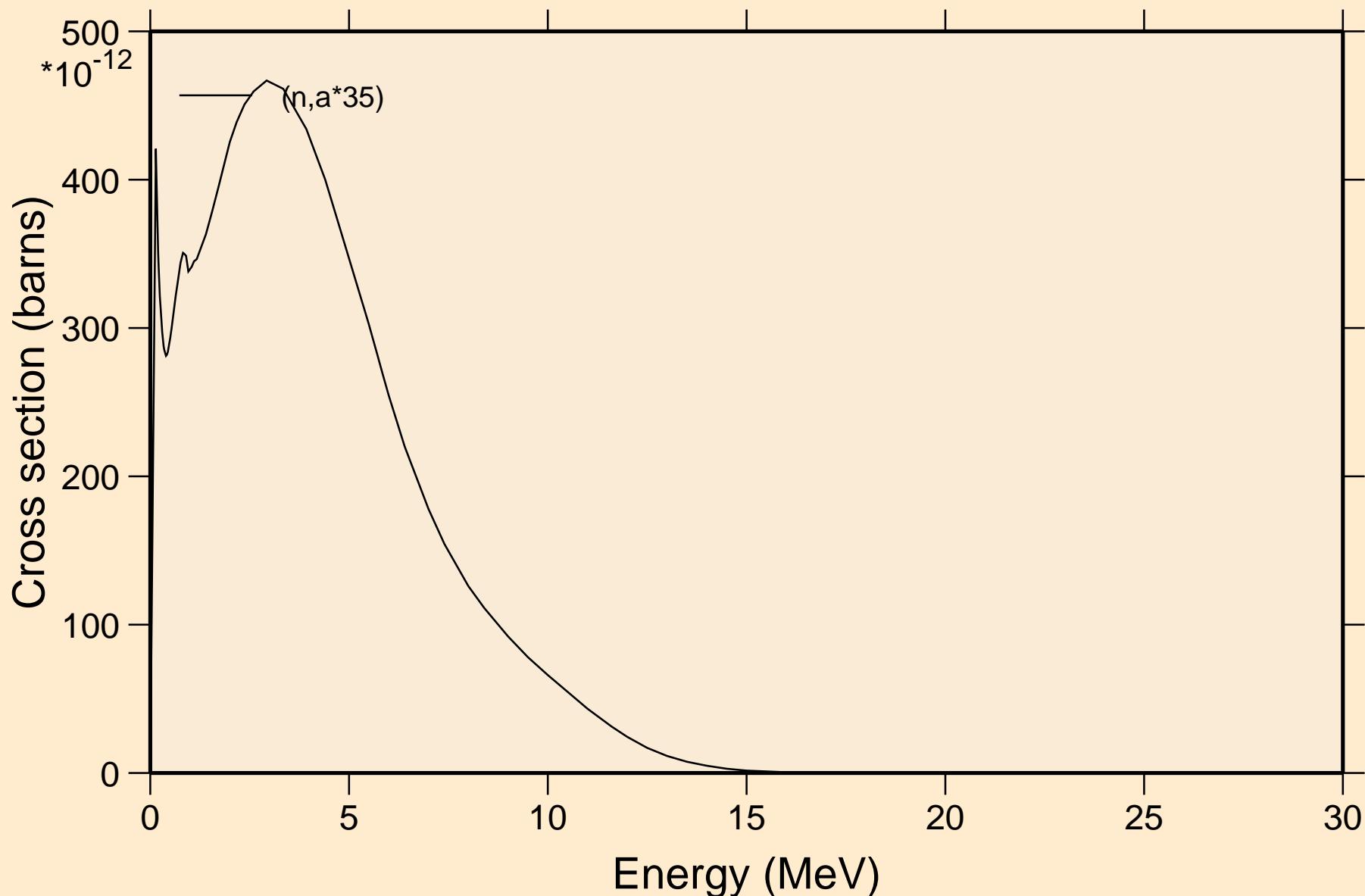
# ADVANCE CALCULATIONS

## Threshold reactions



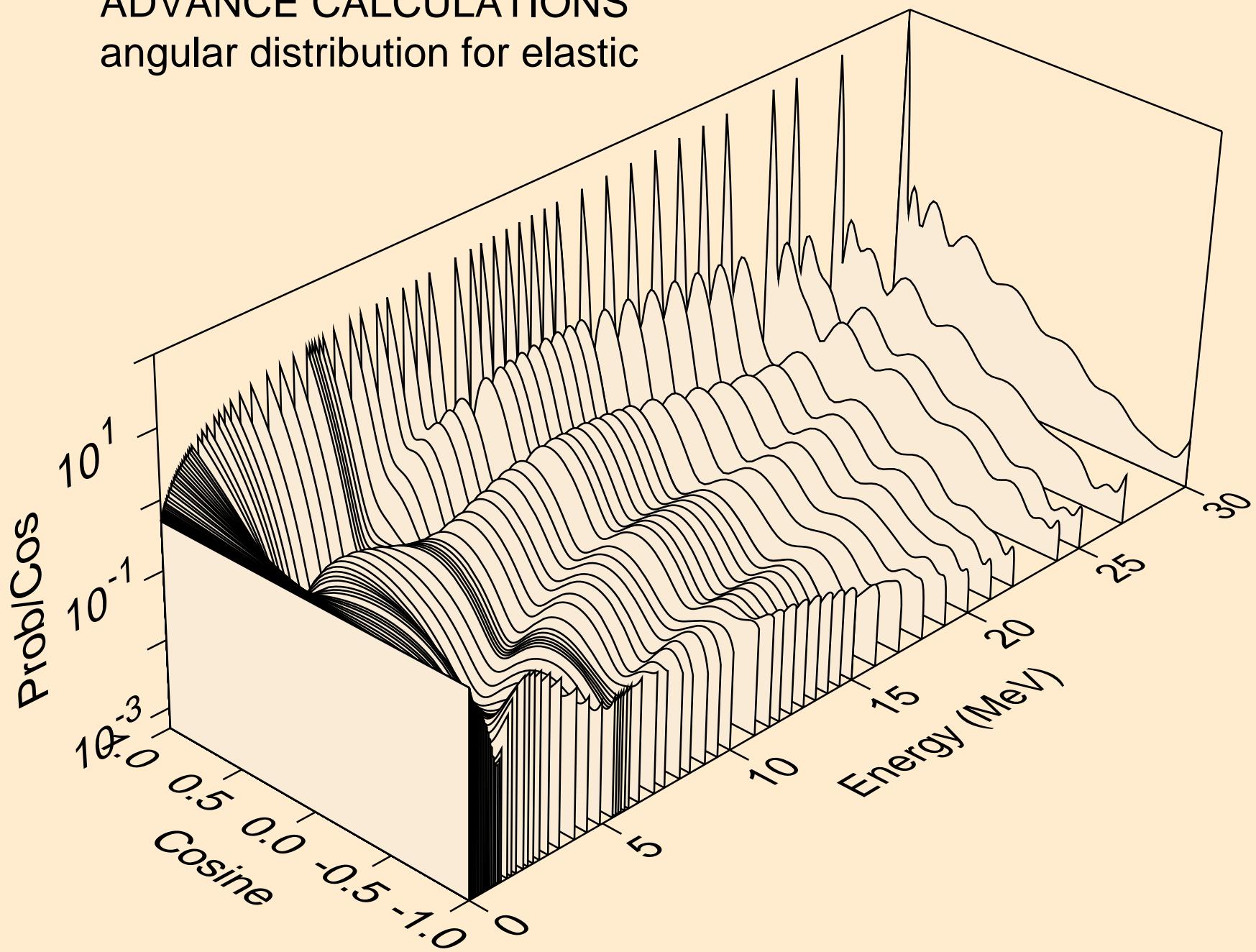
# ADVANCE CALCULATIONS

## Threshold reactions



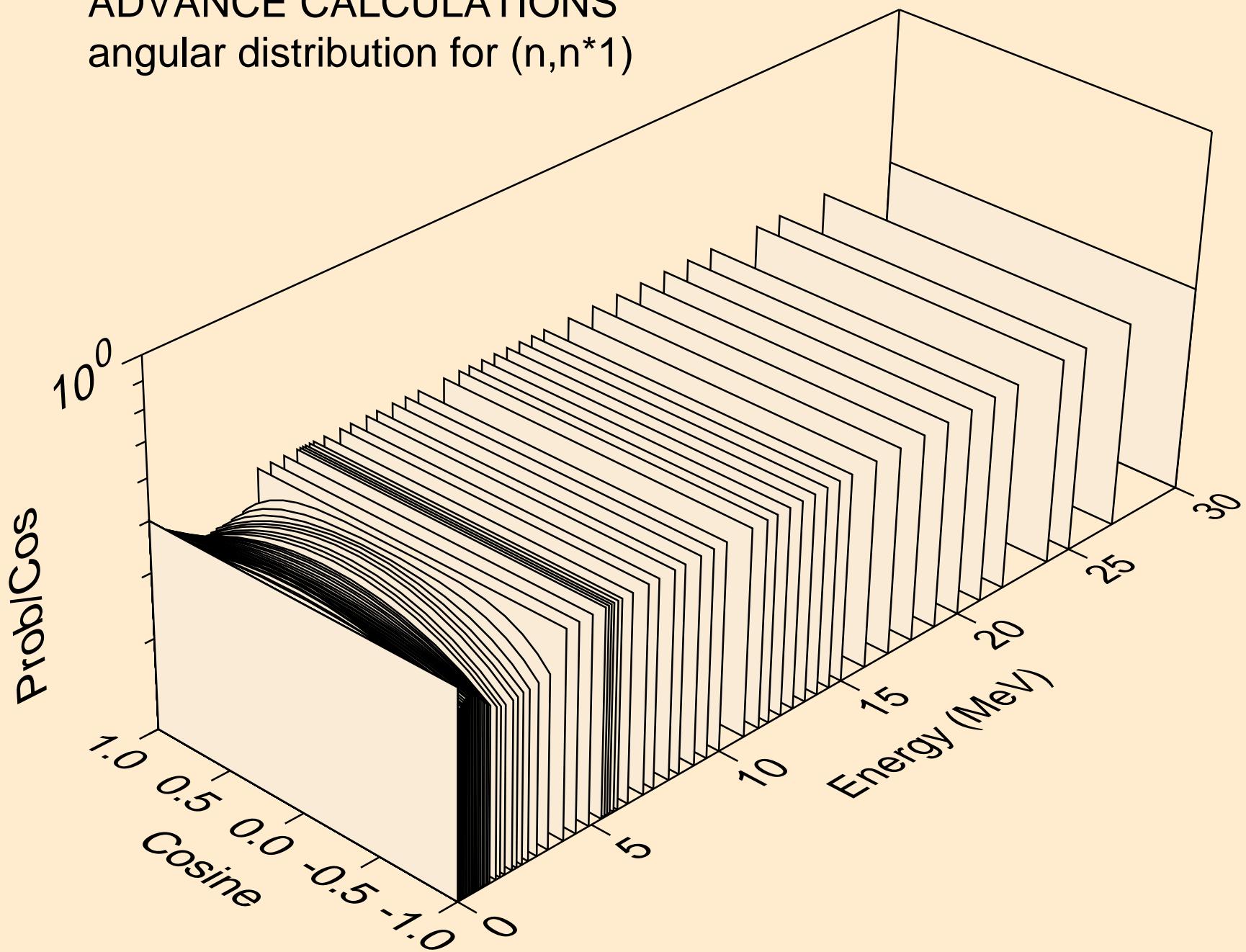
# ADVANCE CALCULATIONS

## angular distribution for elastic



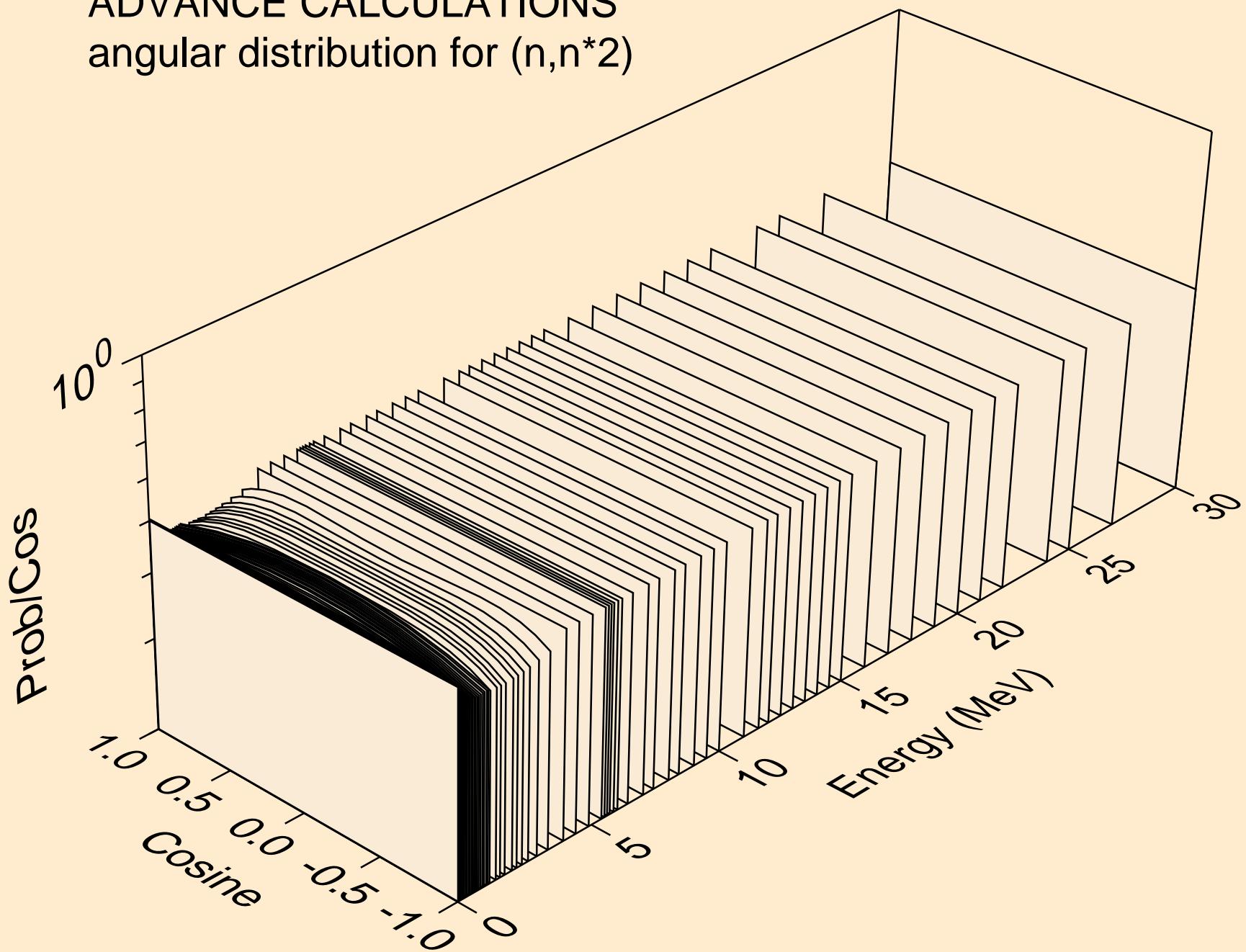
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*1)

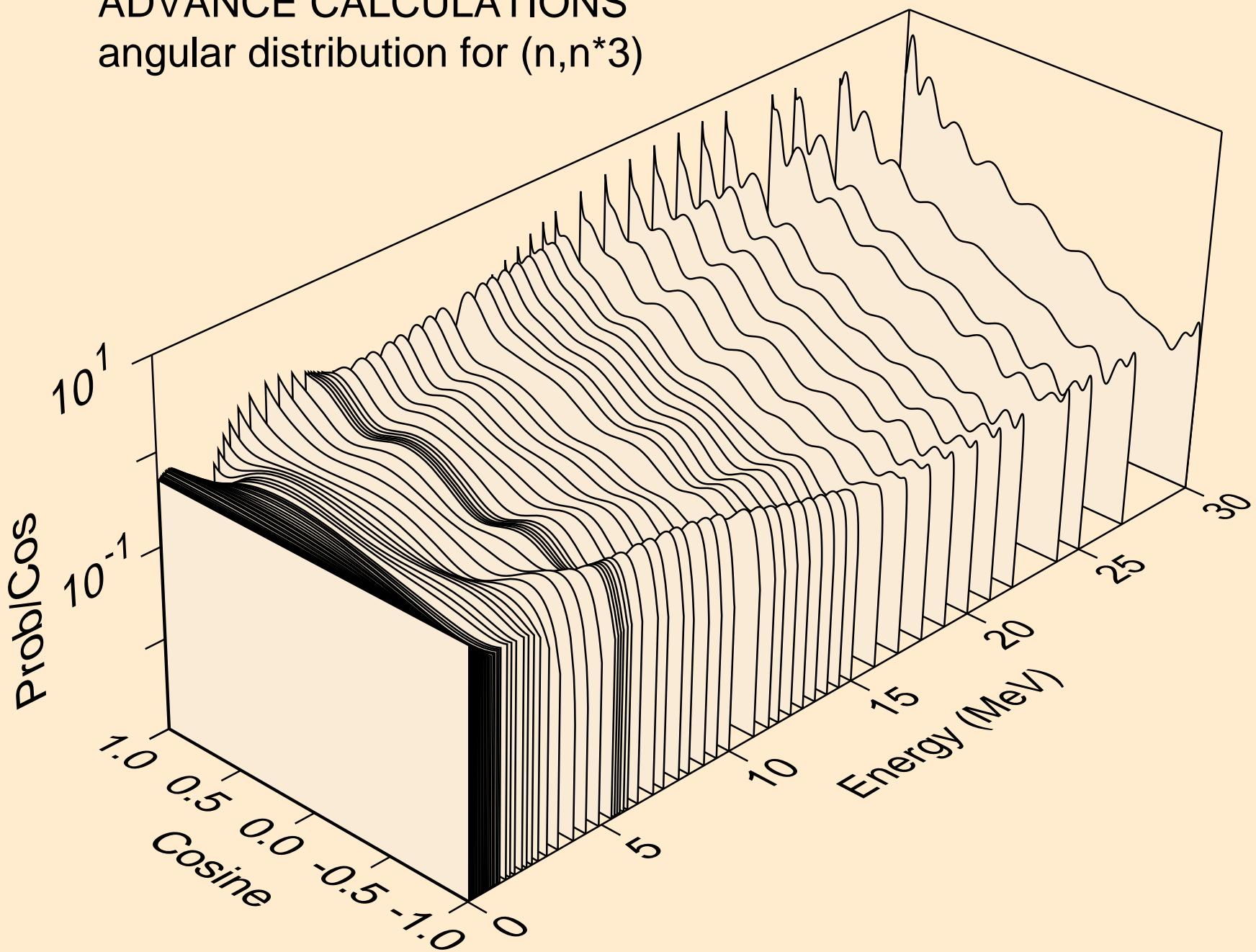


# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*)$

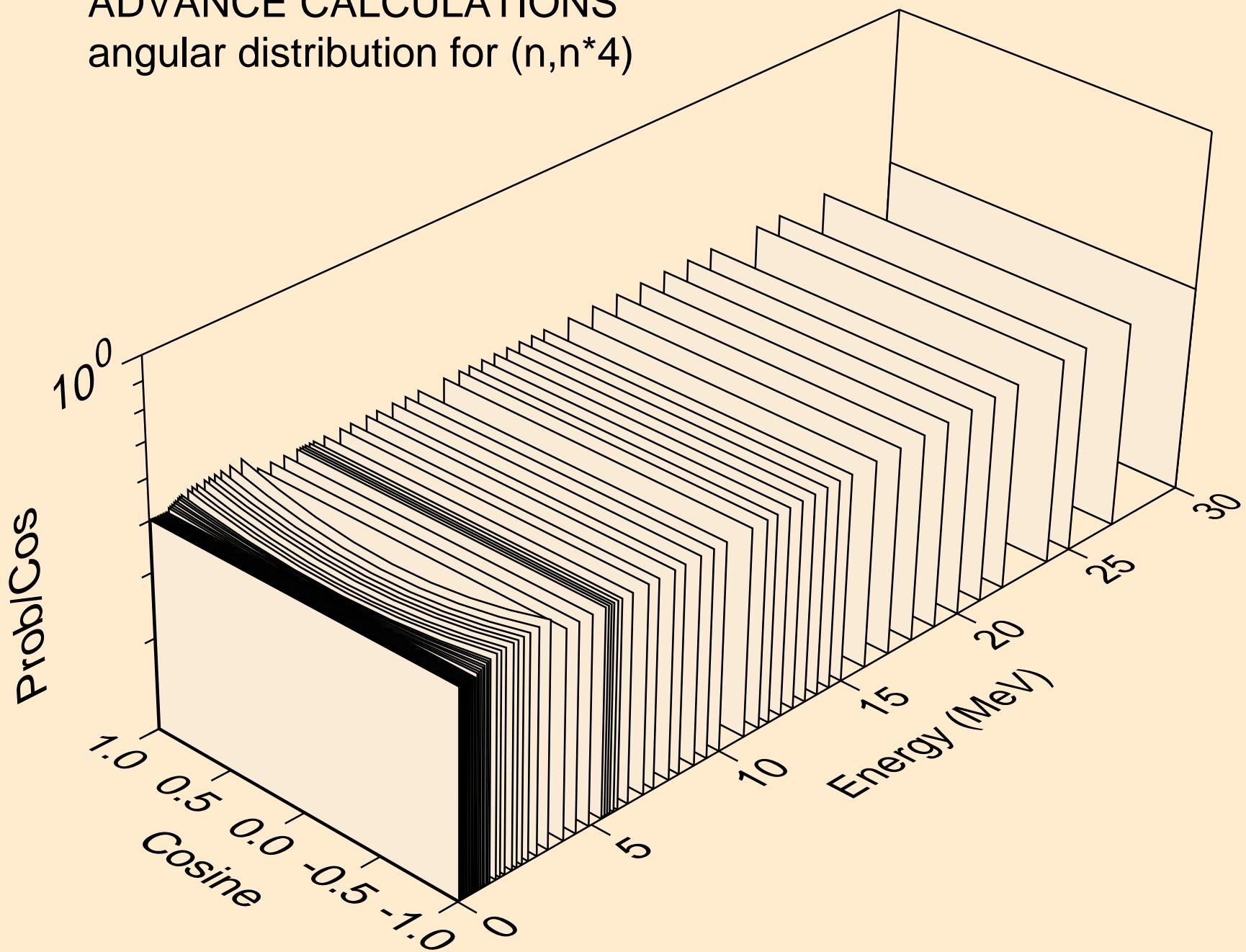


ADVANCE CALCULATIONS  
angular distribution for  $(n,n^*)^3$



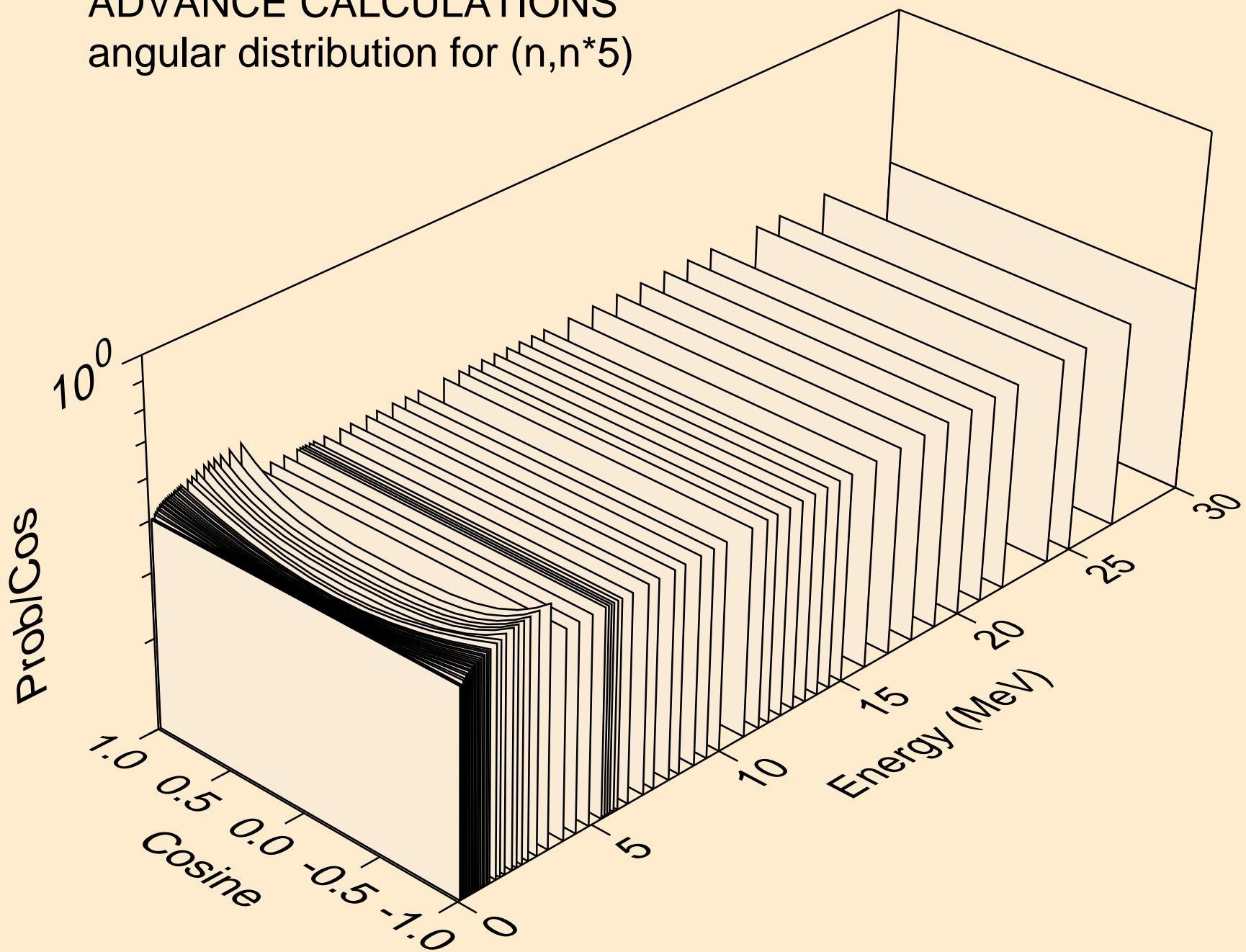
# ADVANCE CALCULATIONS

## angular distribution for $(n,n^*)4$



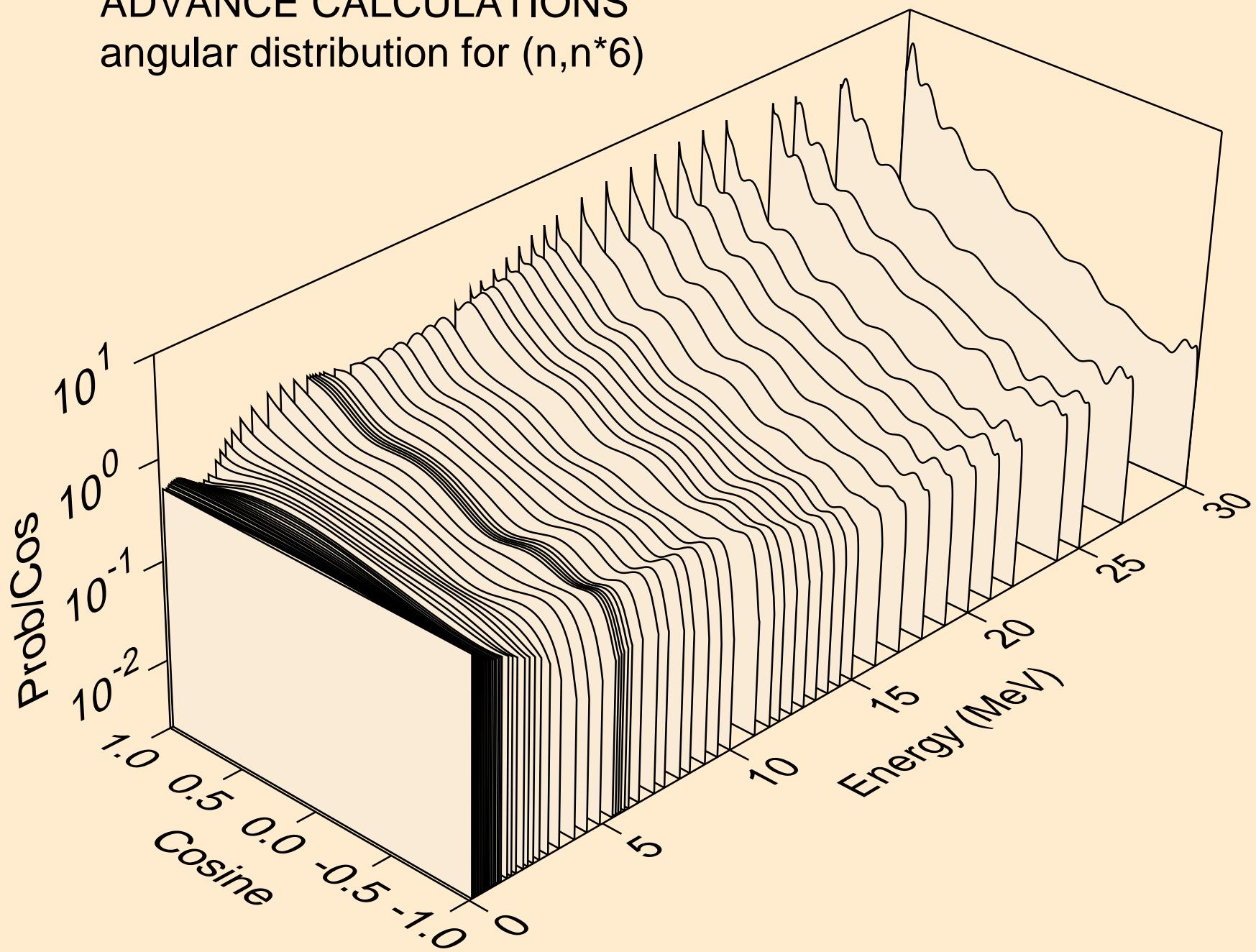
# ADVANCE CALCULATIONS

## angular distribution for $(n,n^*)$



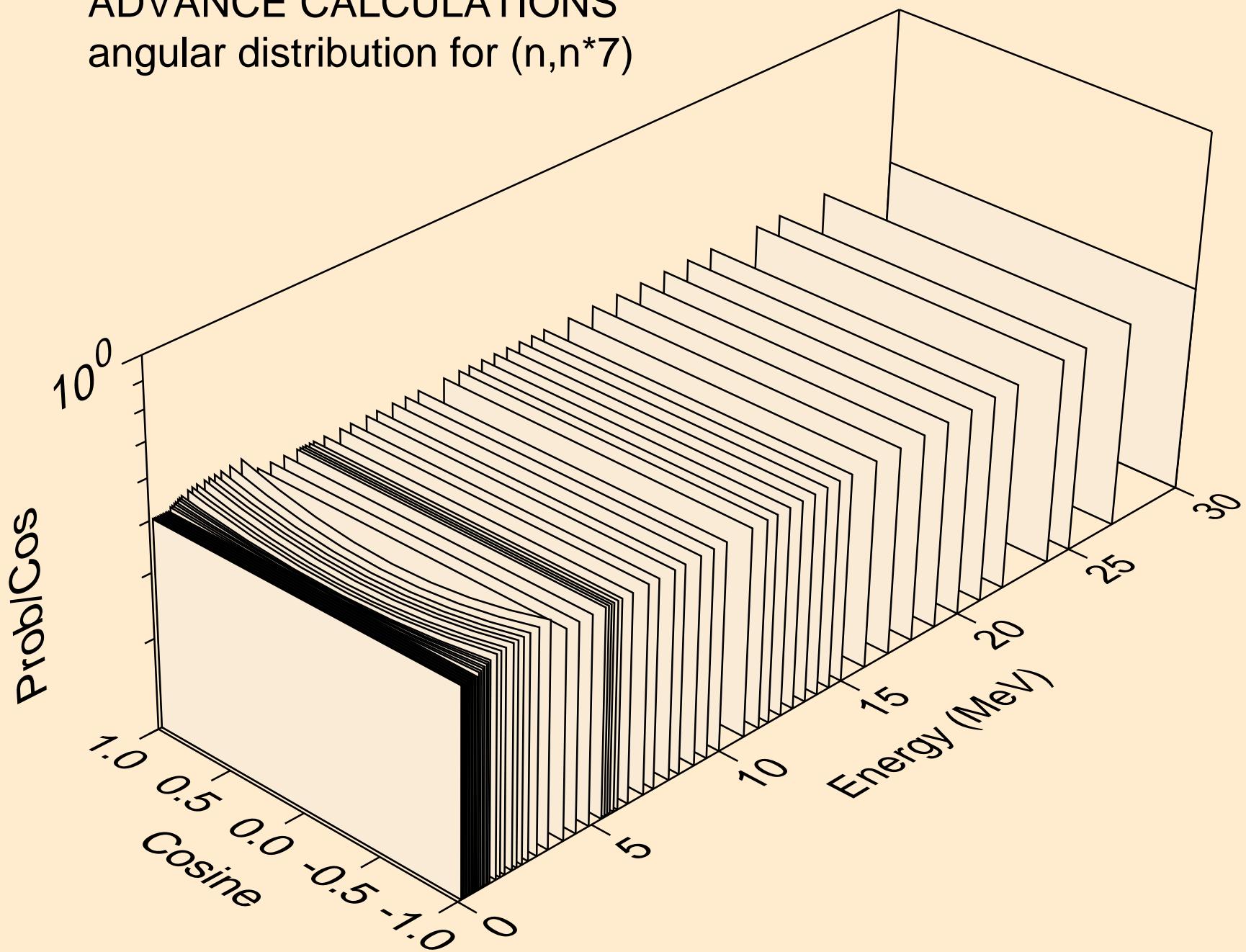
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*6)$



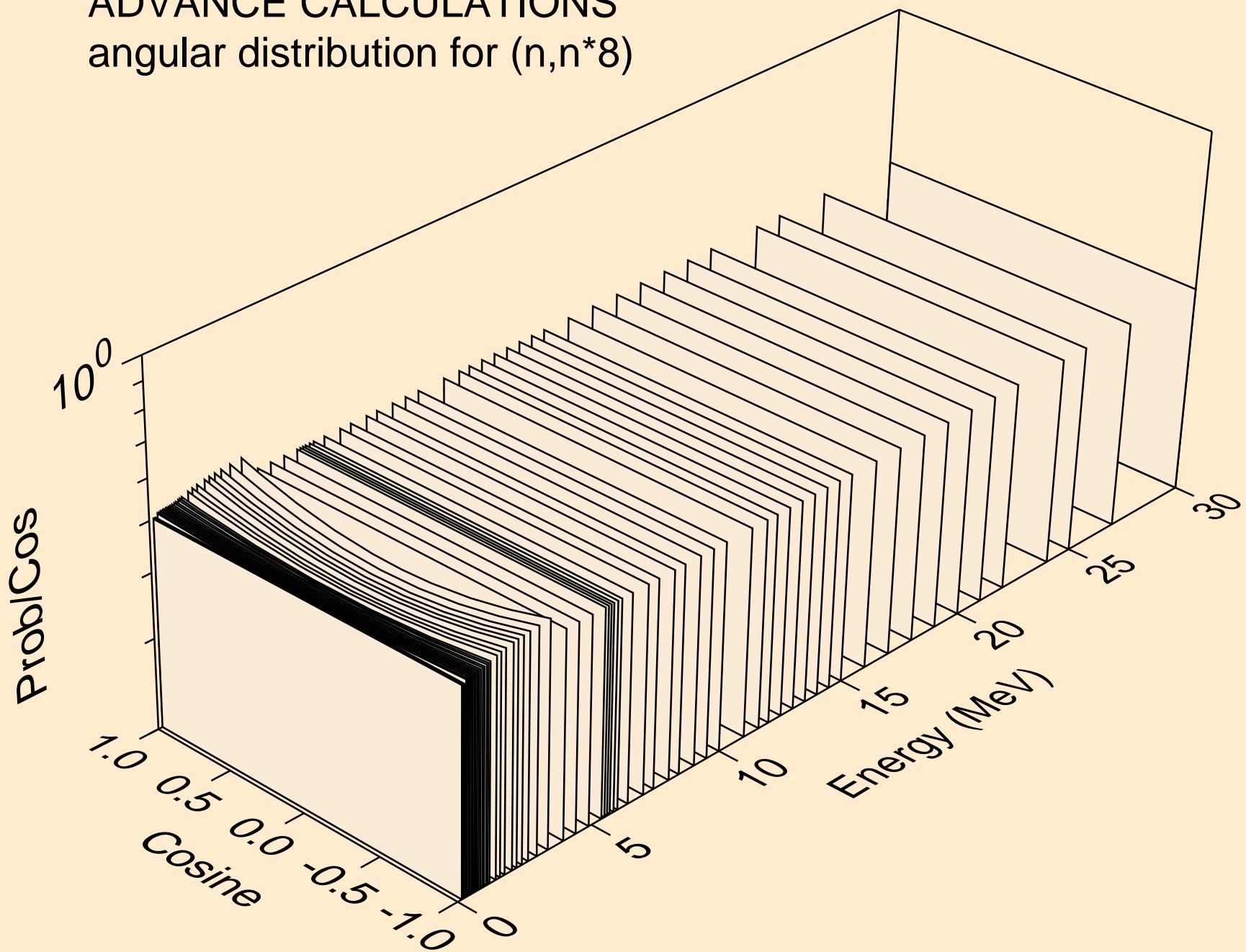
# ADVANCE CALCULATIONS

## angular distribution for $(n,n^*)^7$



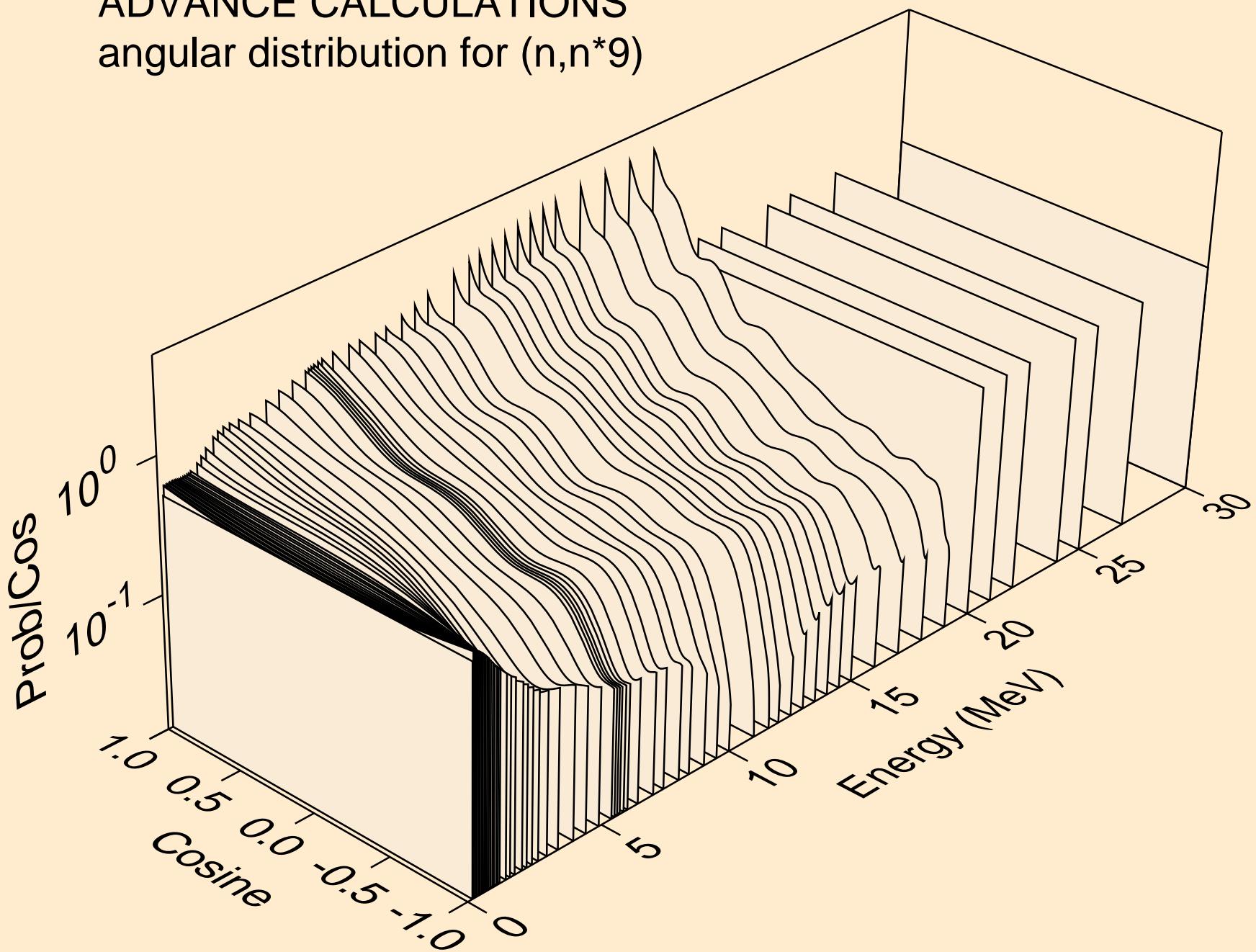
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*)^8$



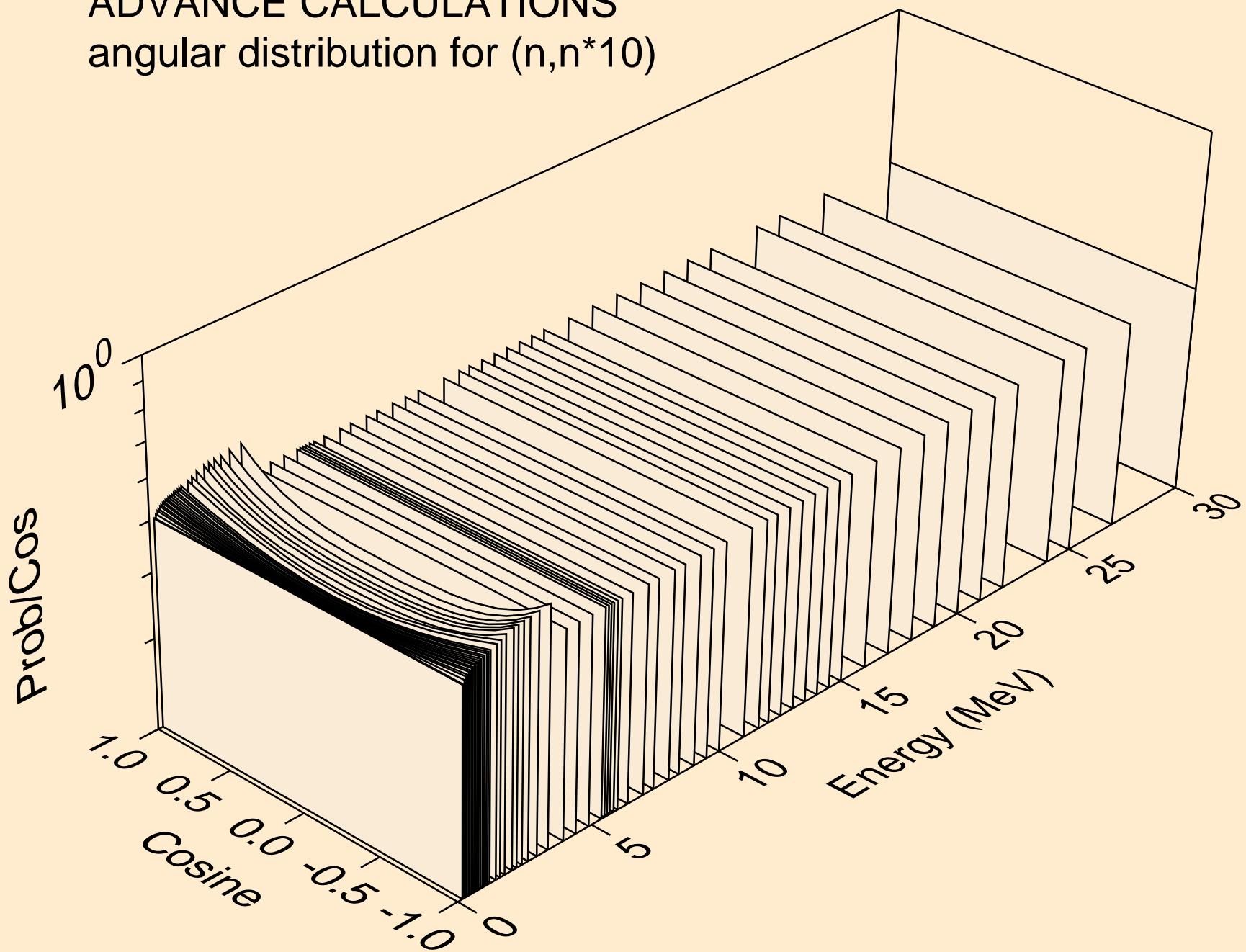
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*)9$



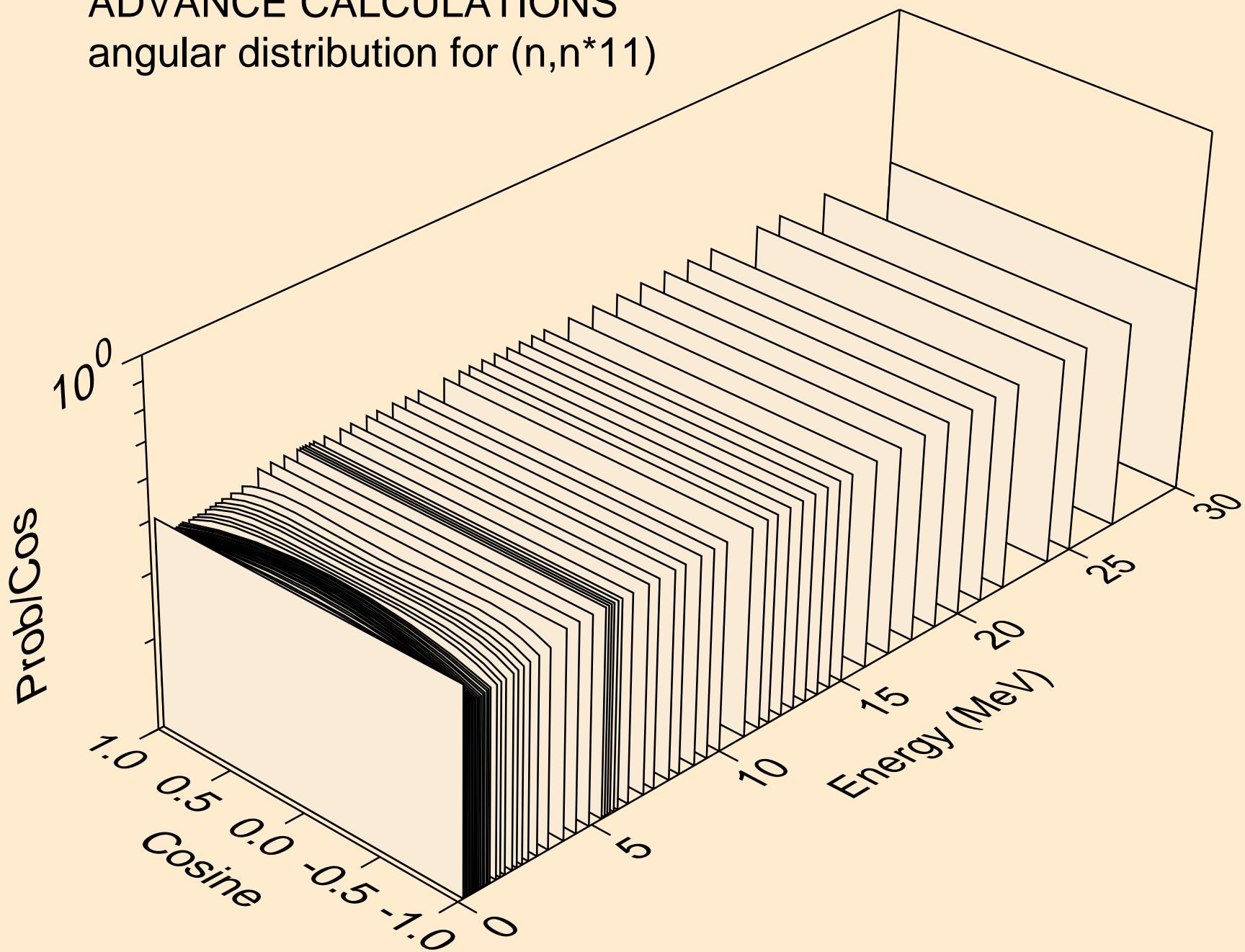
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*10)



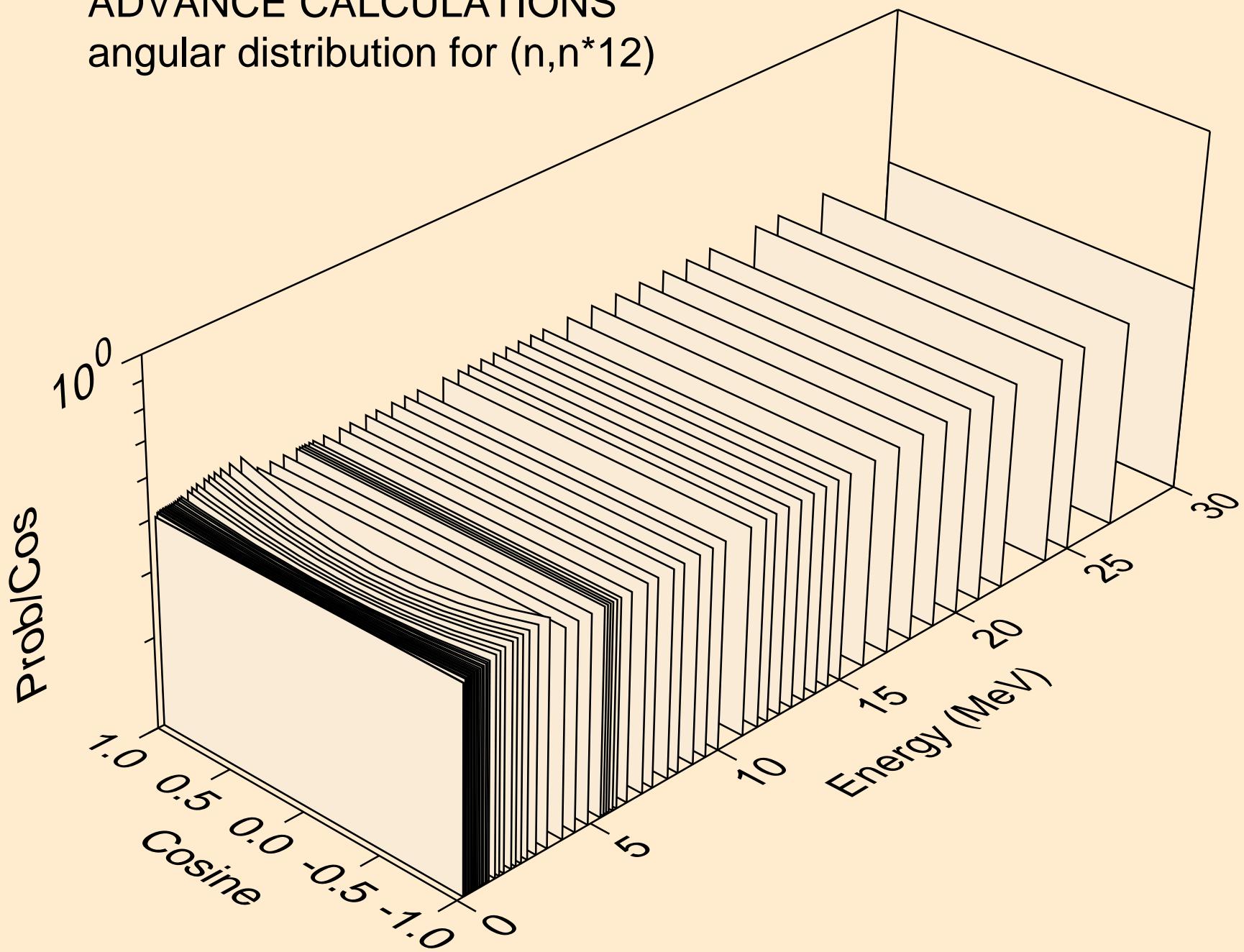
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*11)



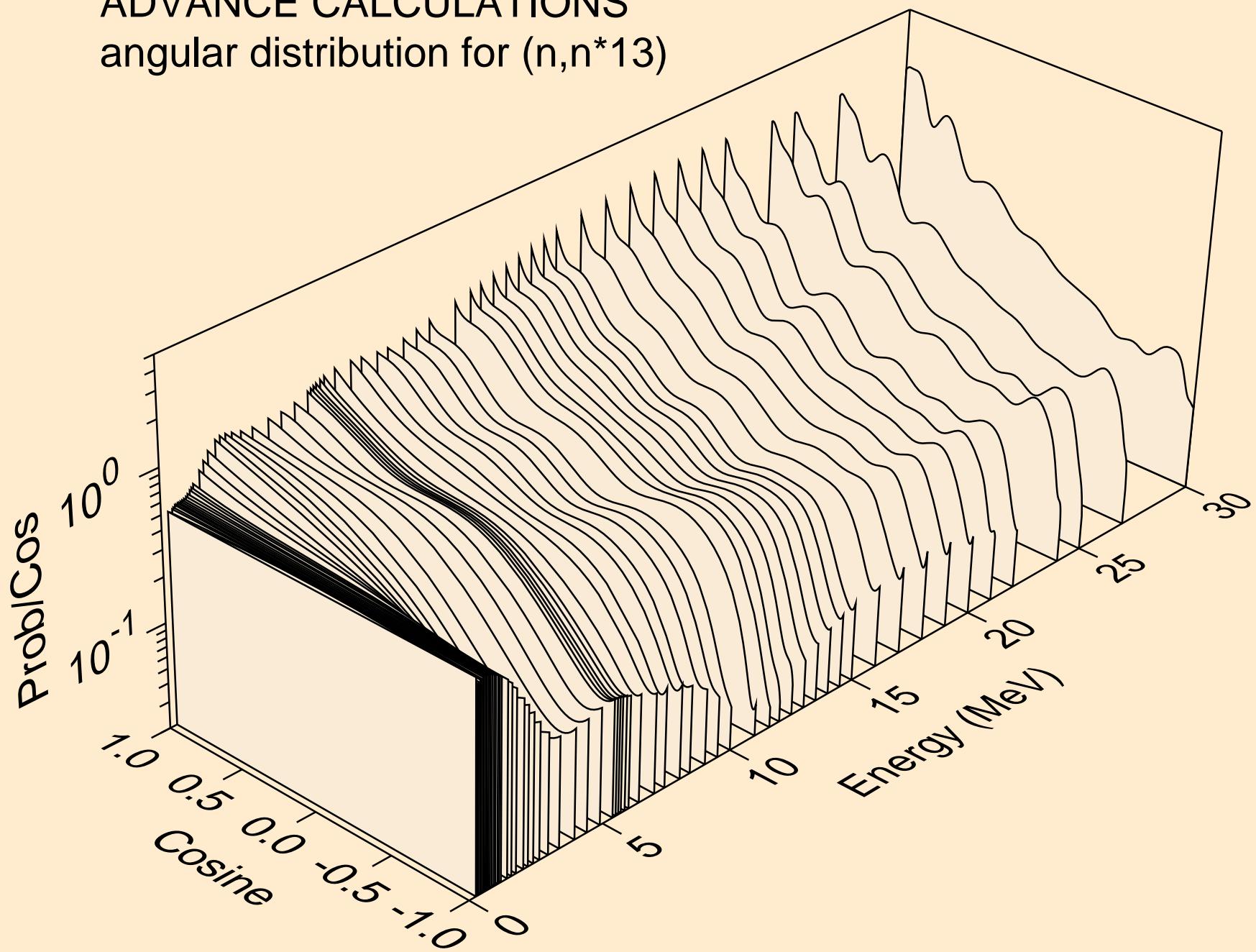
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*12)$



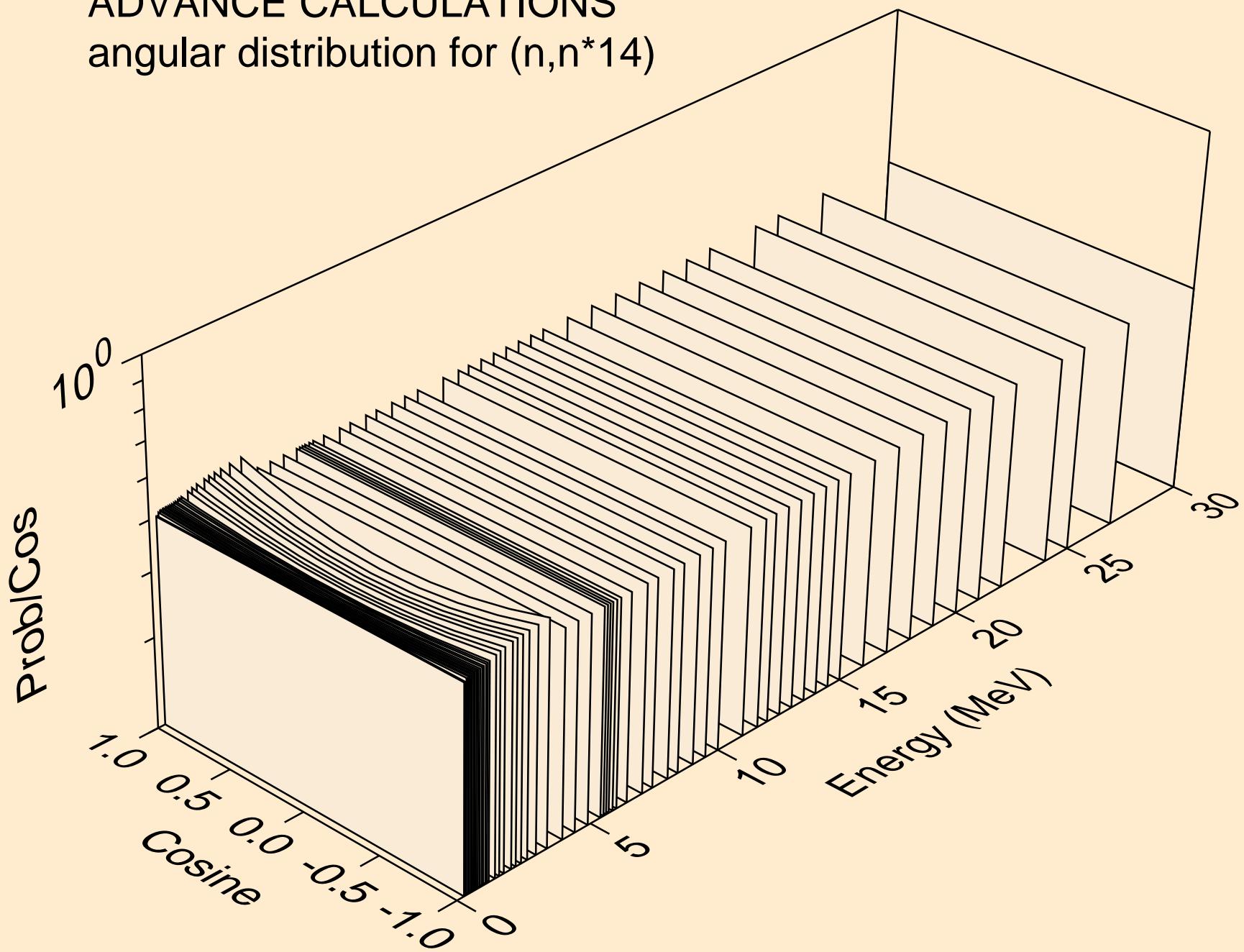
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*13)$



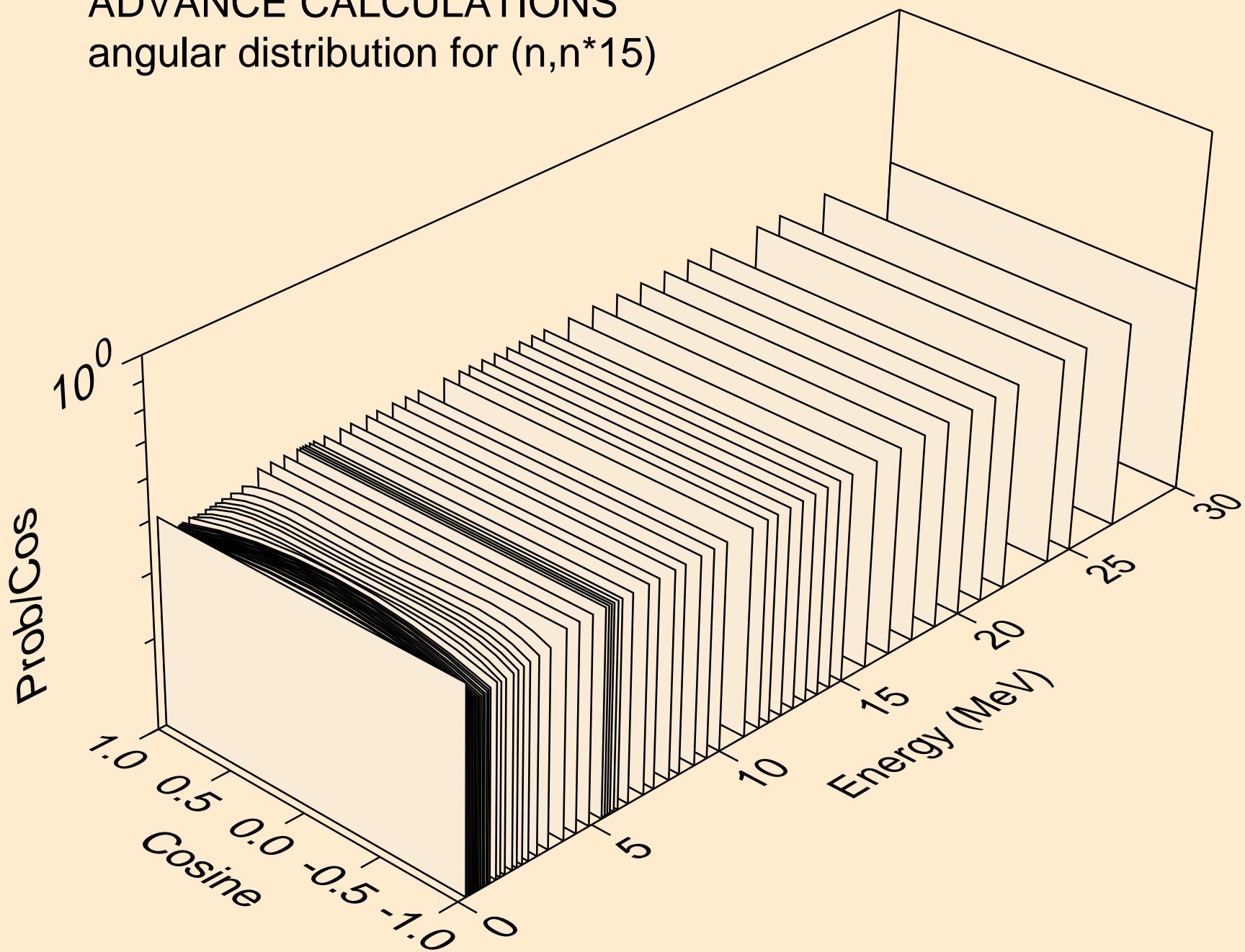
# ADVANCE CALCULATIONS

angular distribution for (n,n\*14)



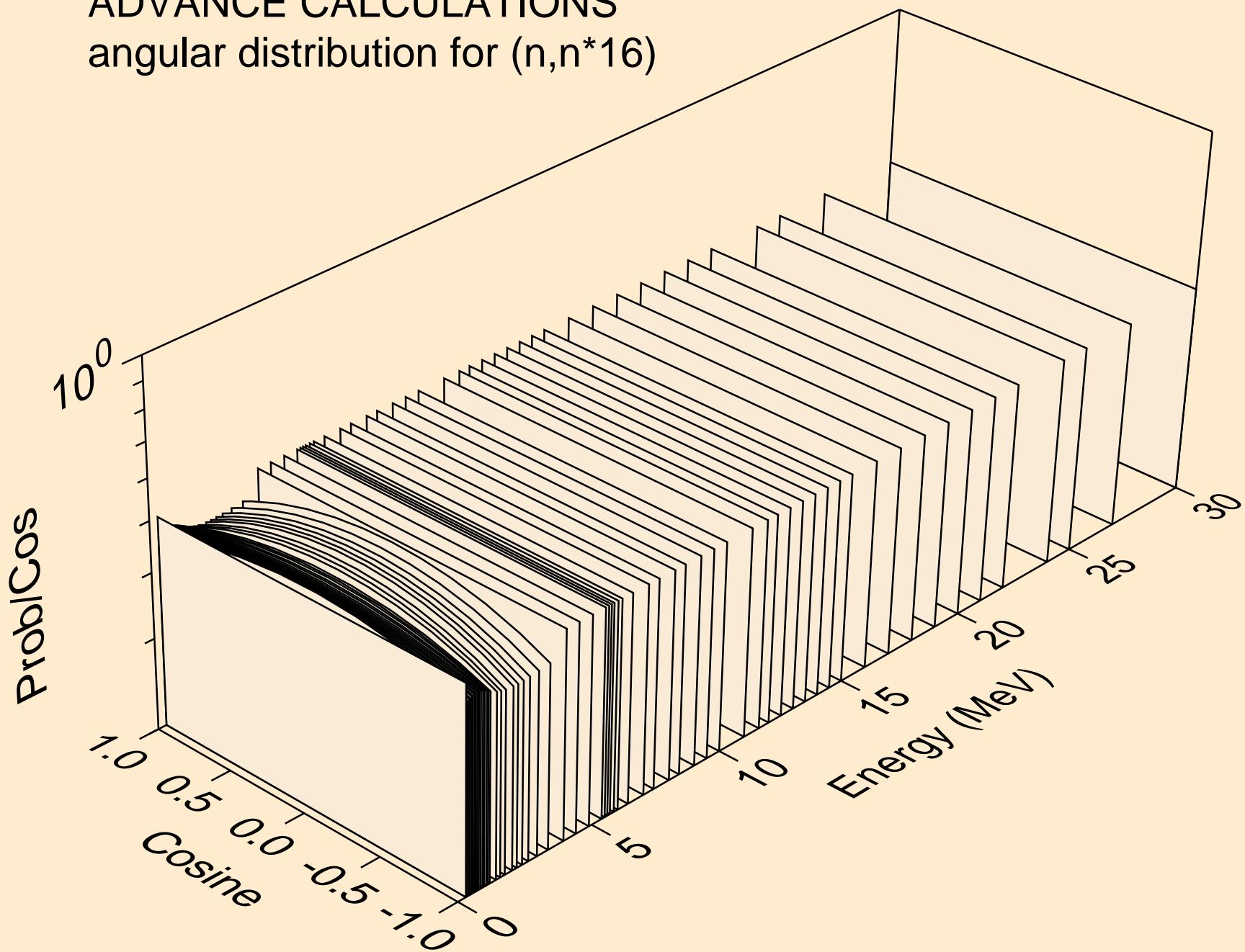
# ADVANCE CALCULATIONS

## angular distribution for $(n,n^*15)$



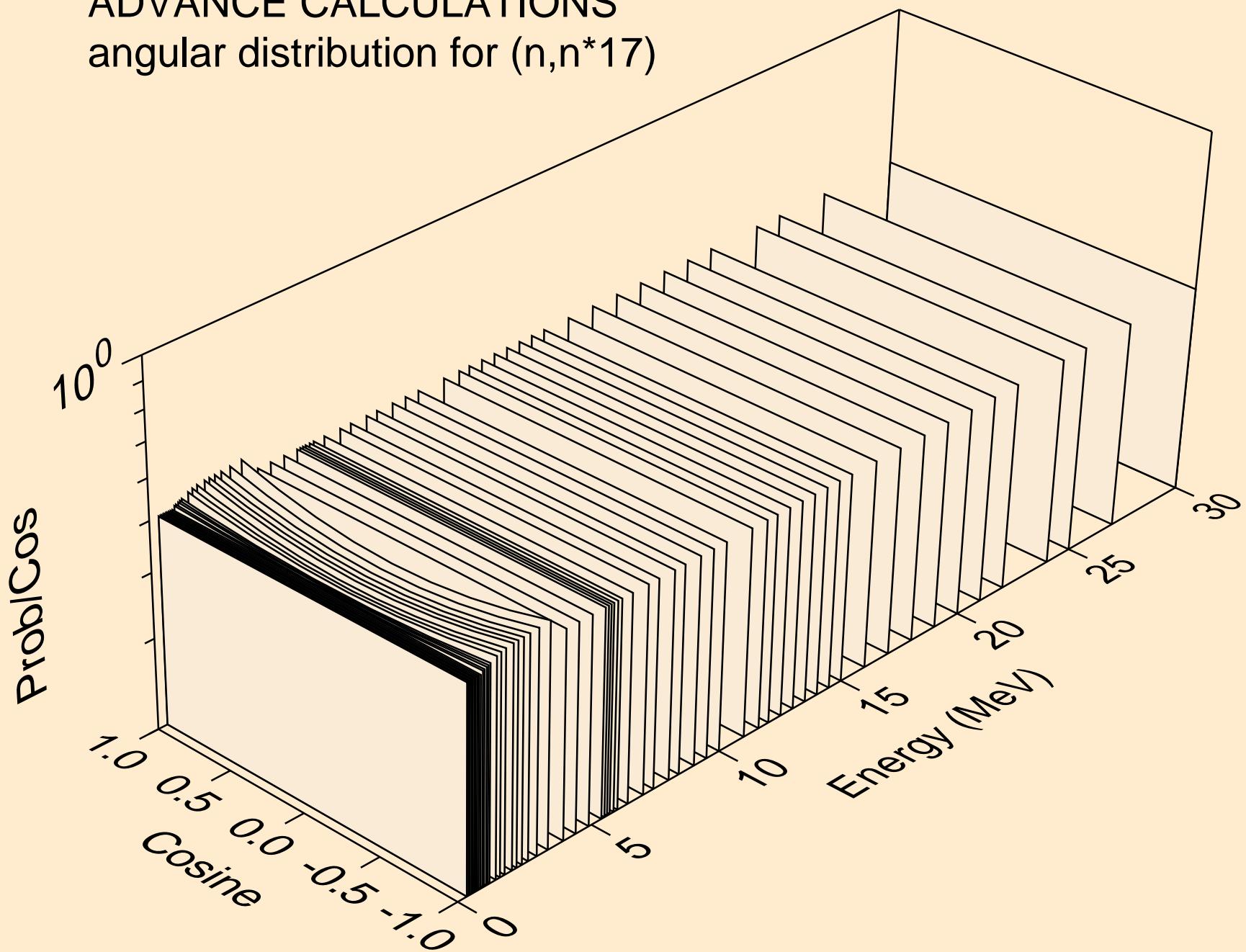
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*16)$



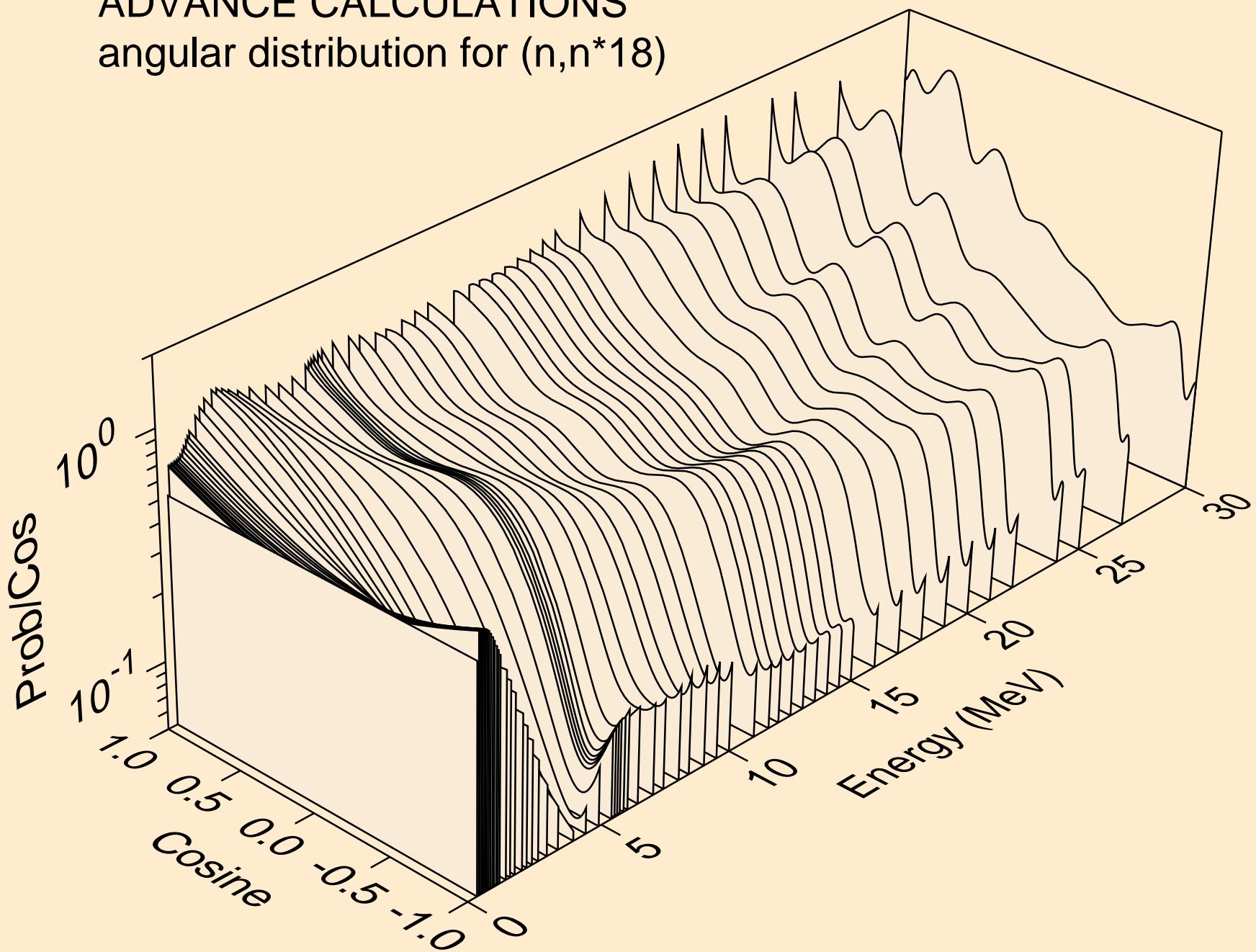
# ADVANCE CALCULATIONS

## angular distribution for ( $n, n^* 17$ )



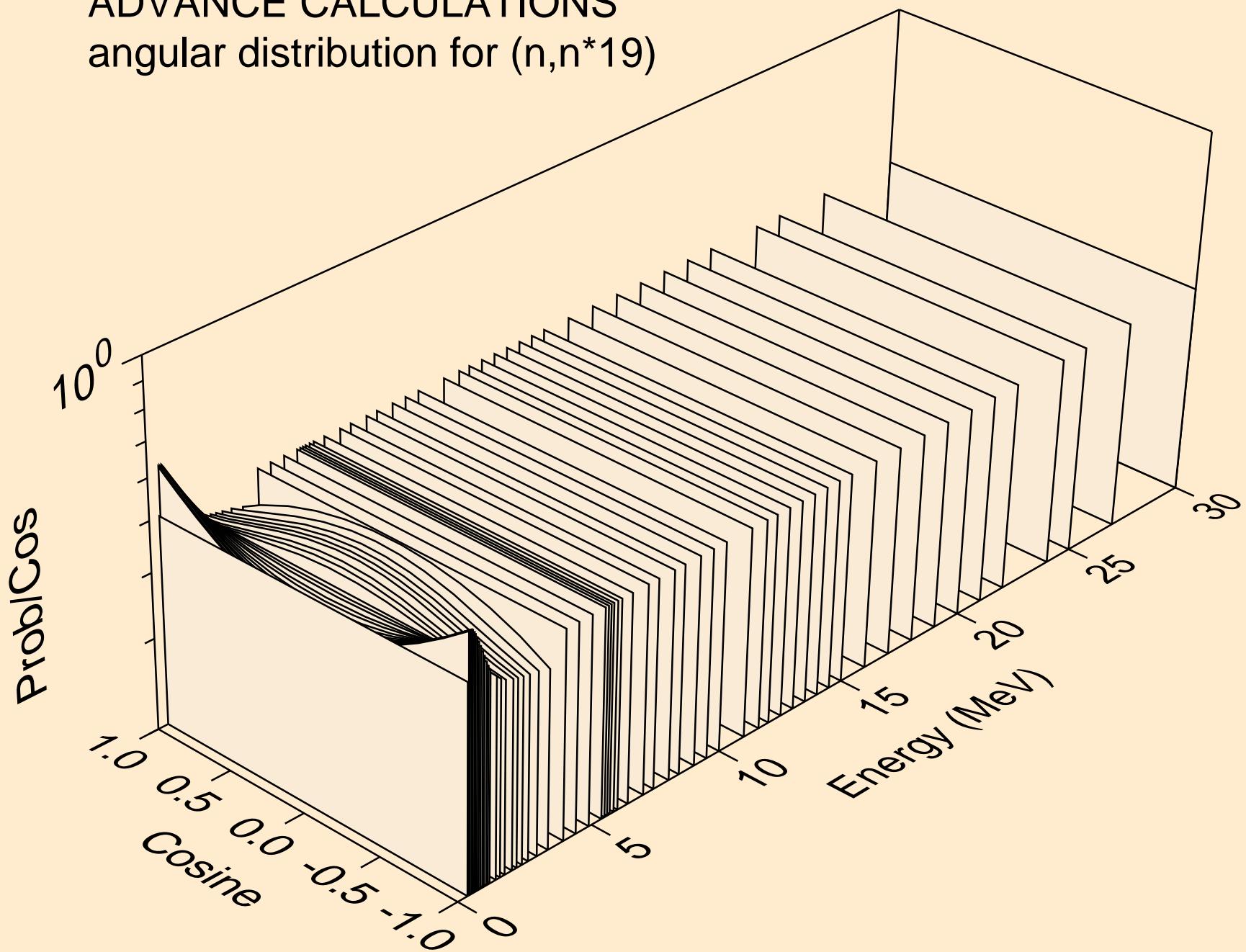
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*18)$



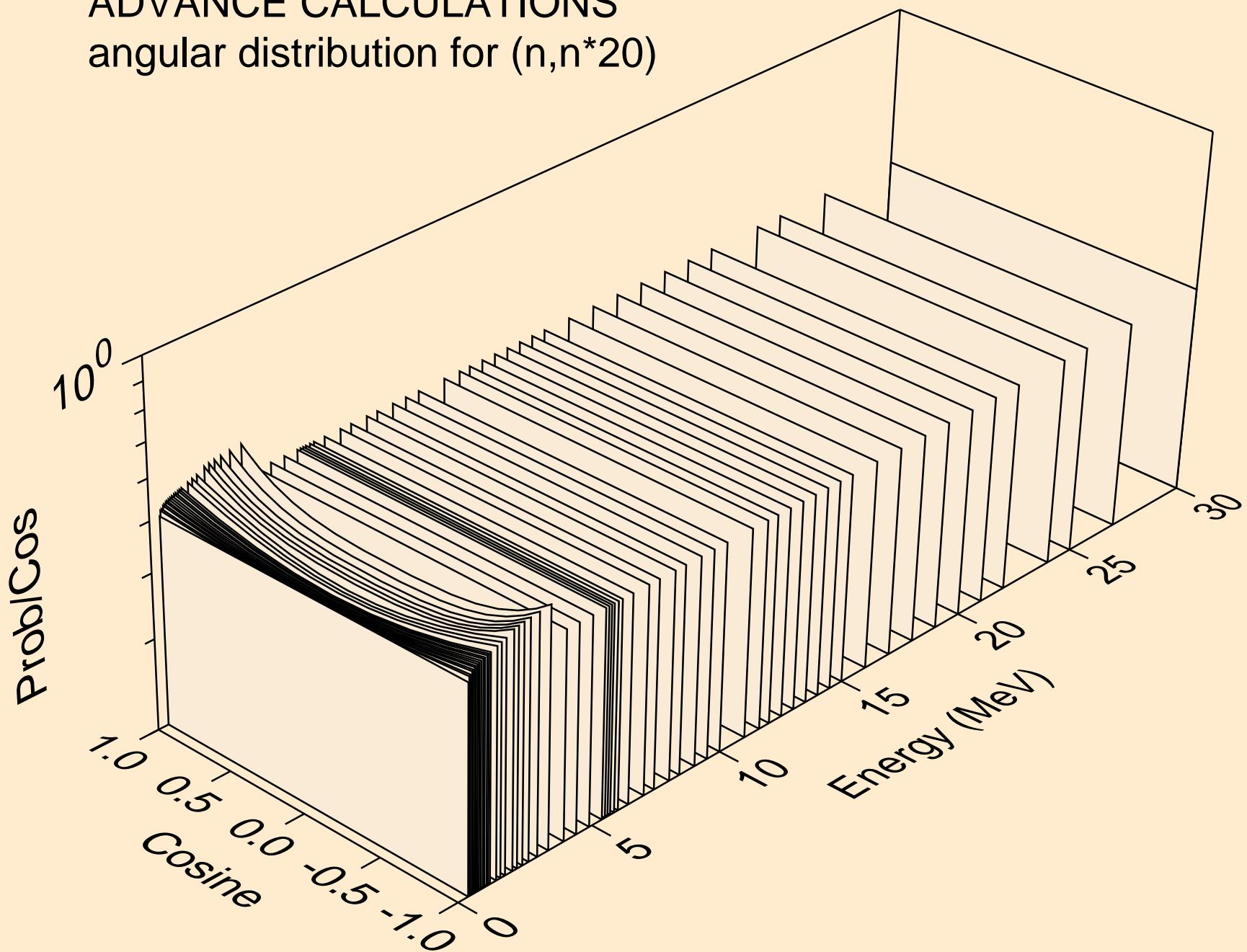
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*19)$



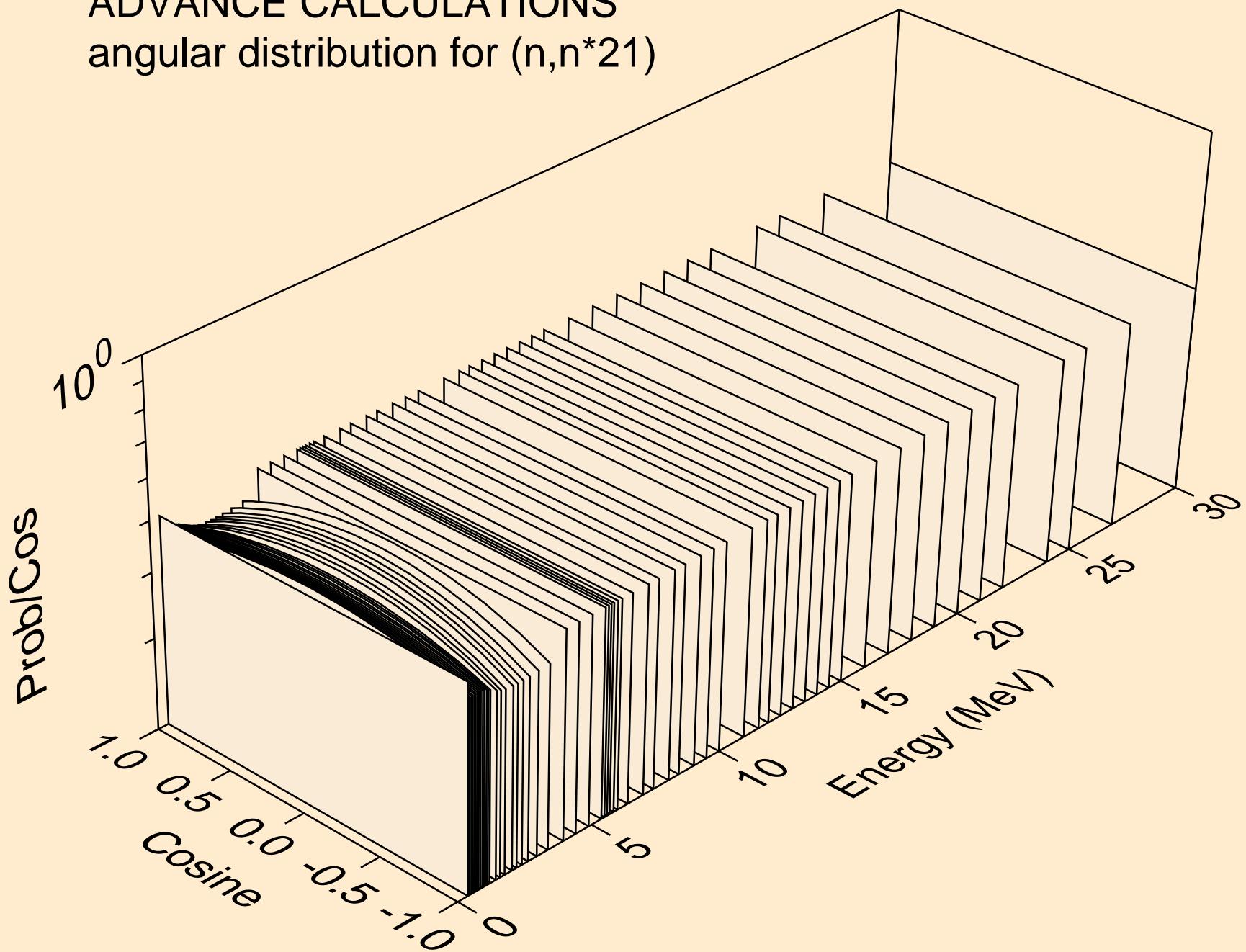
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*)20$



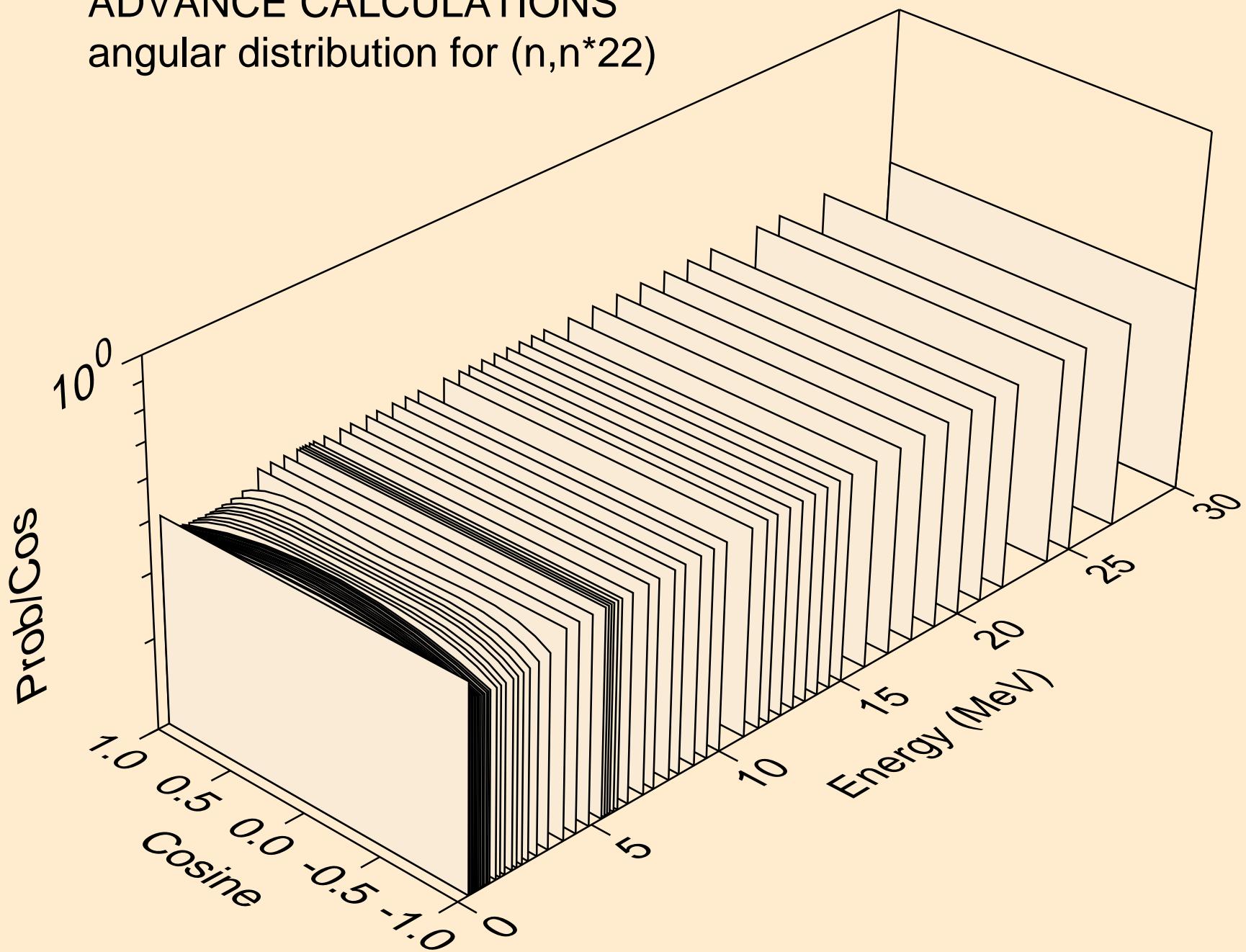
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*21)$



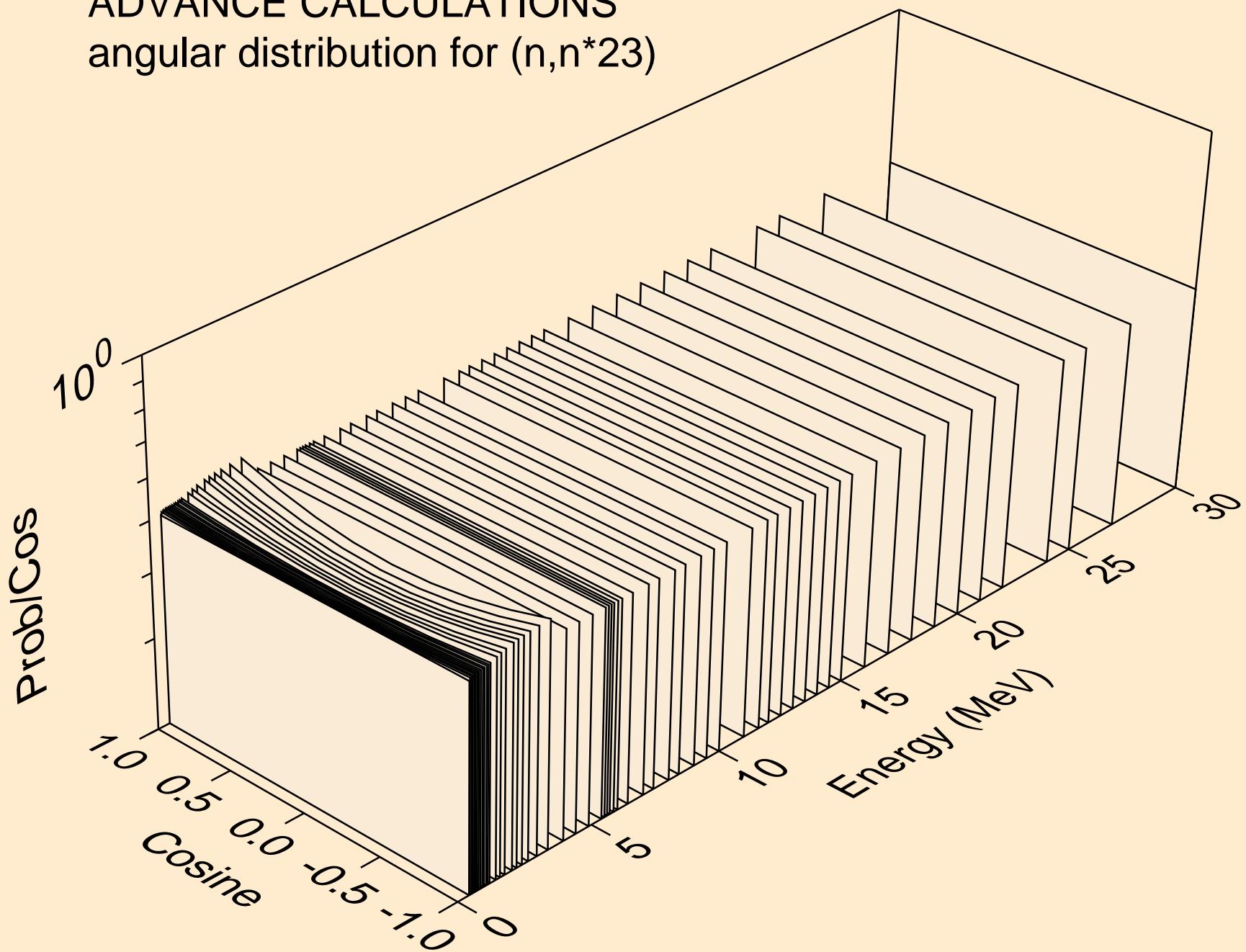
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*)^{22}$



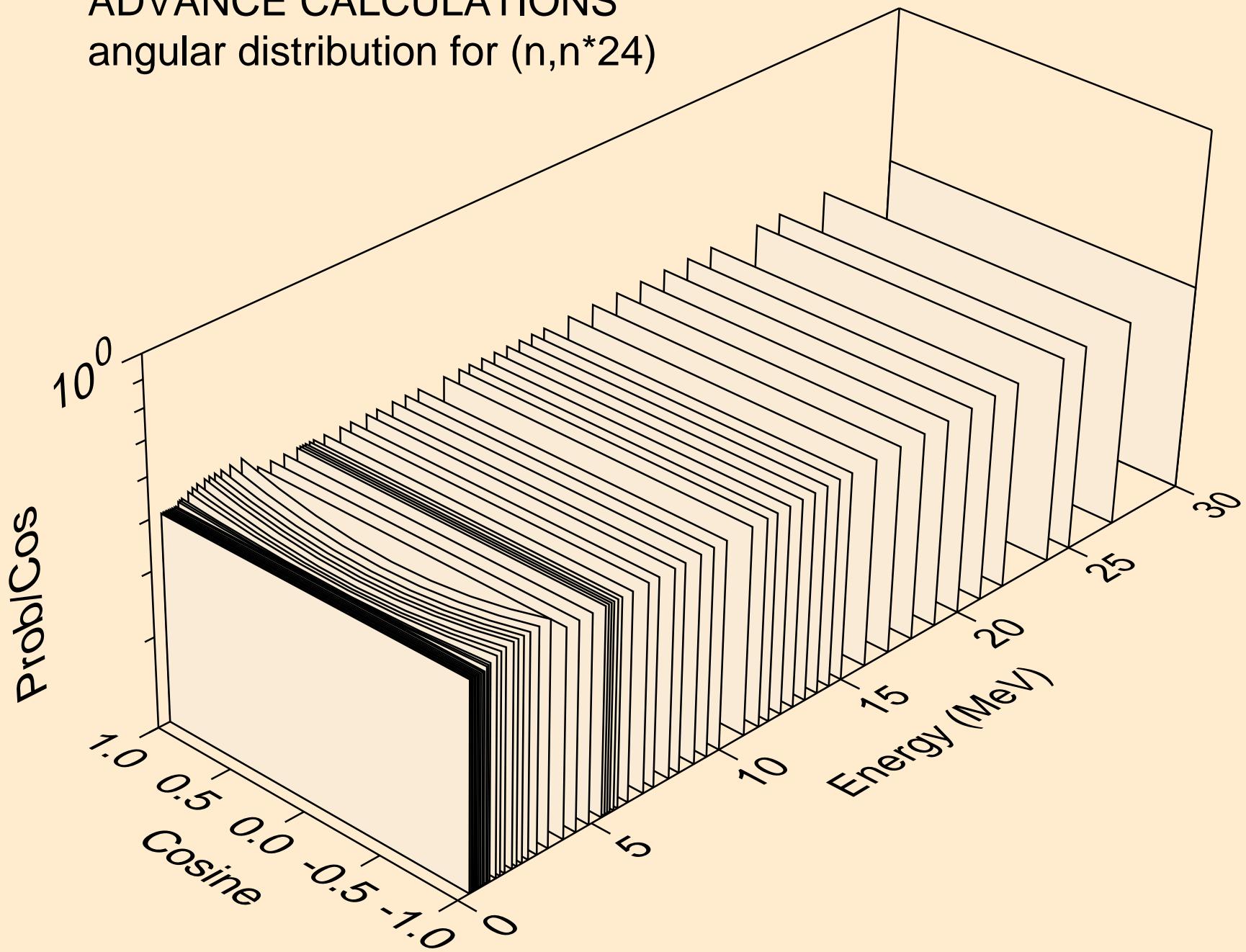
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*23)$



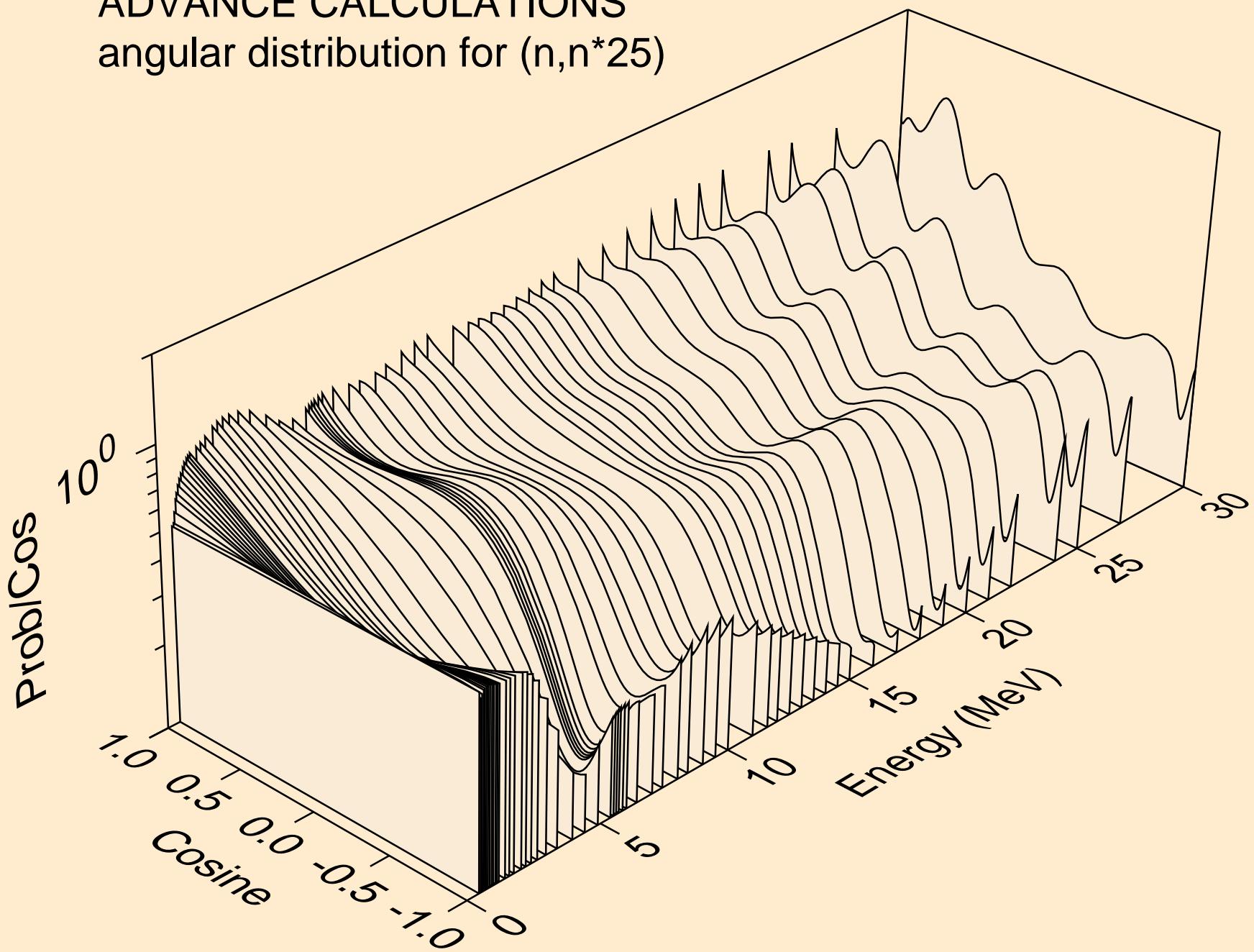
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*)^{24}$



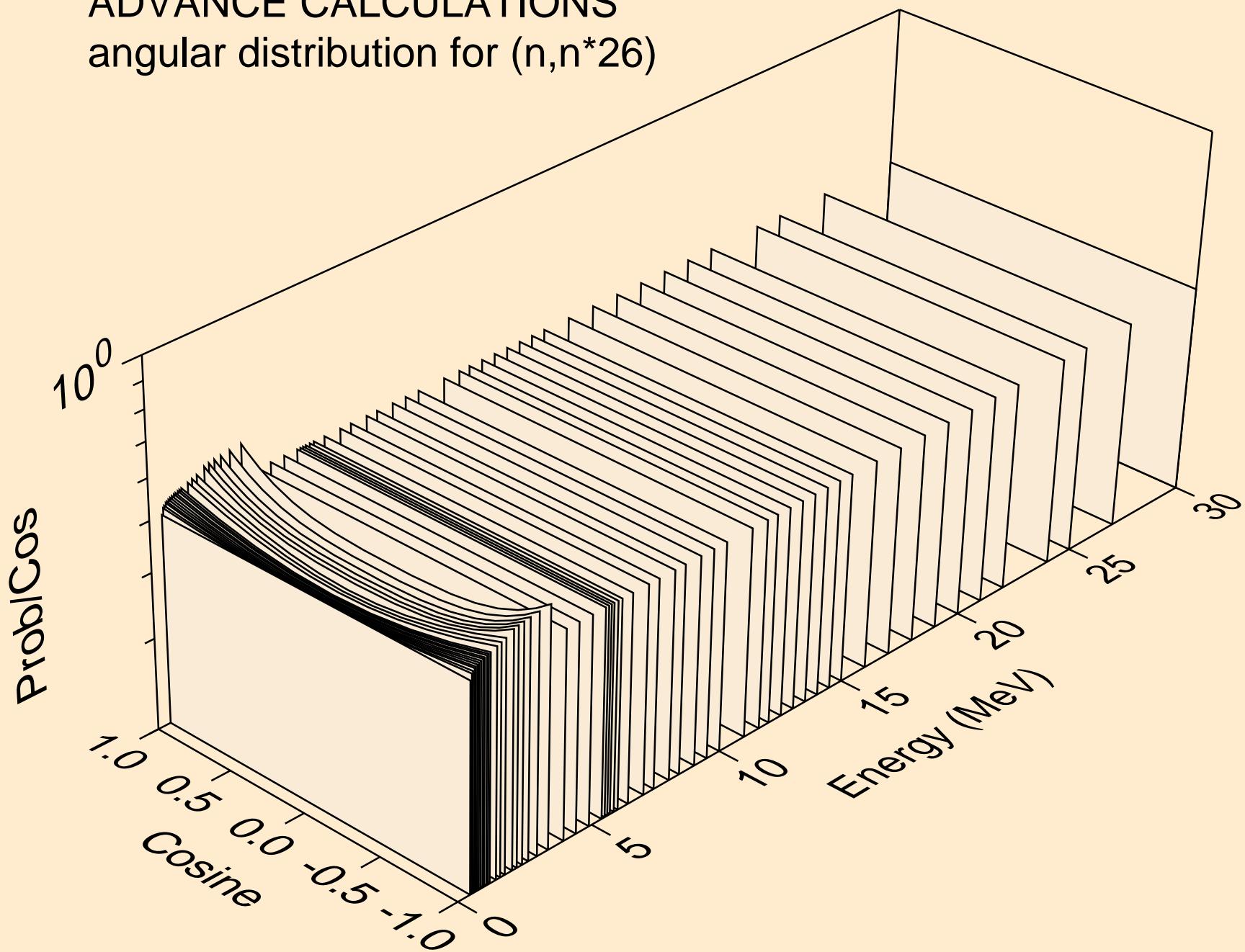
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*25)$



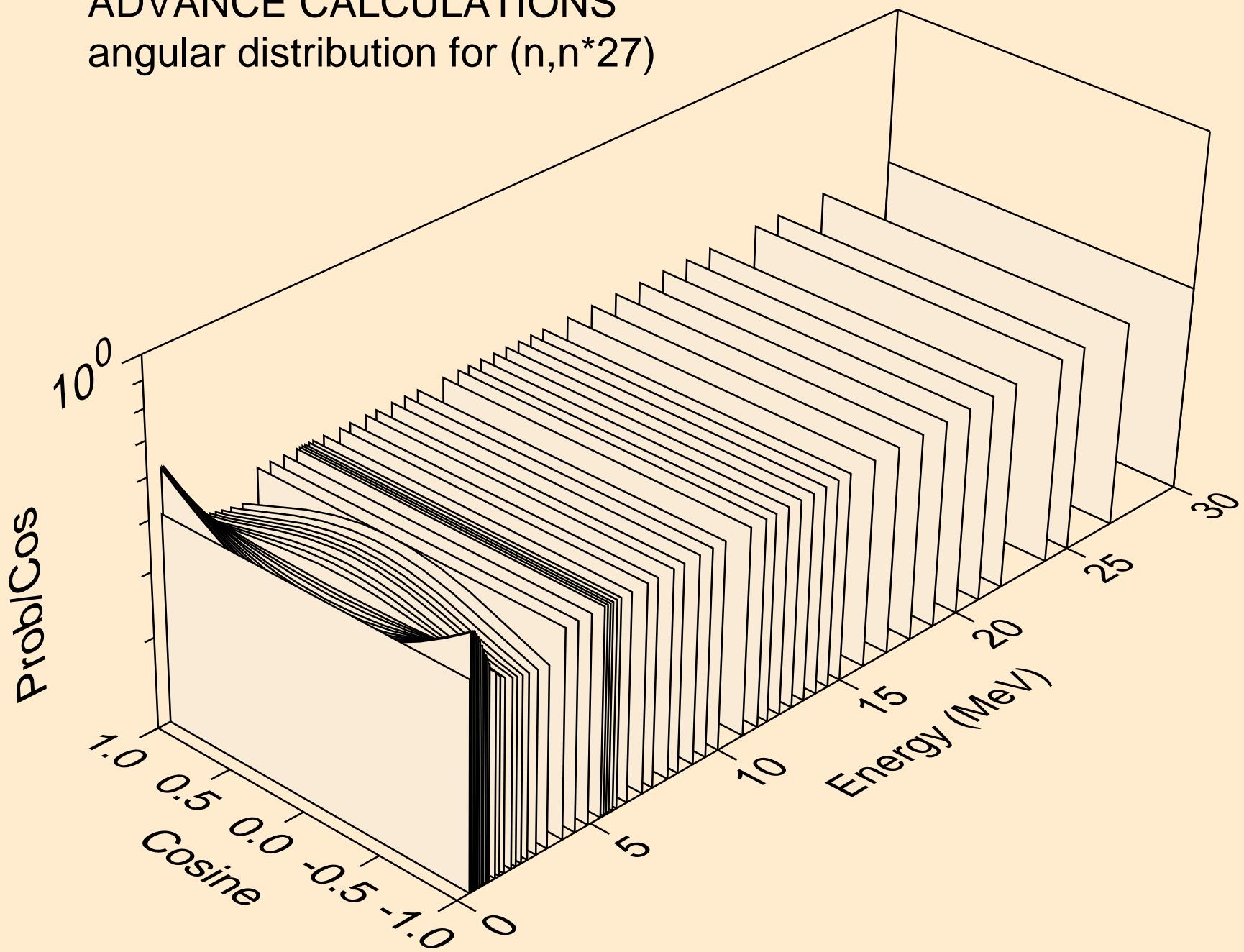
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*)_{26}$



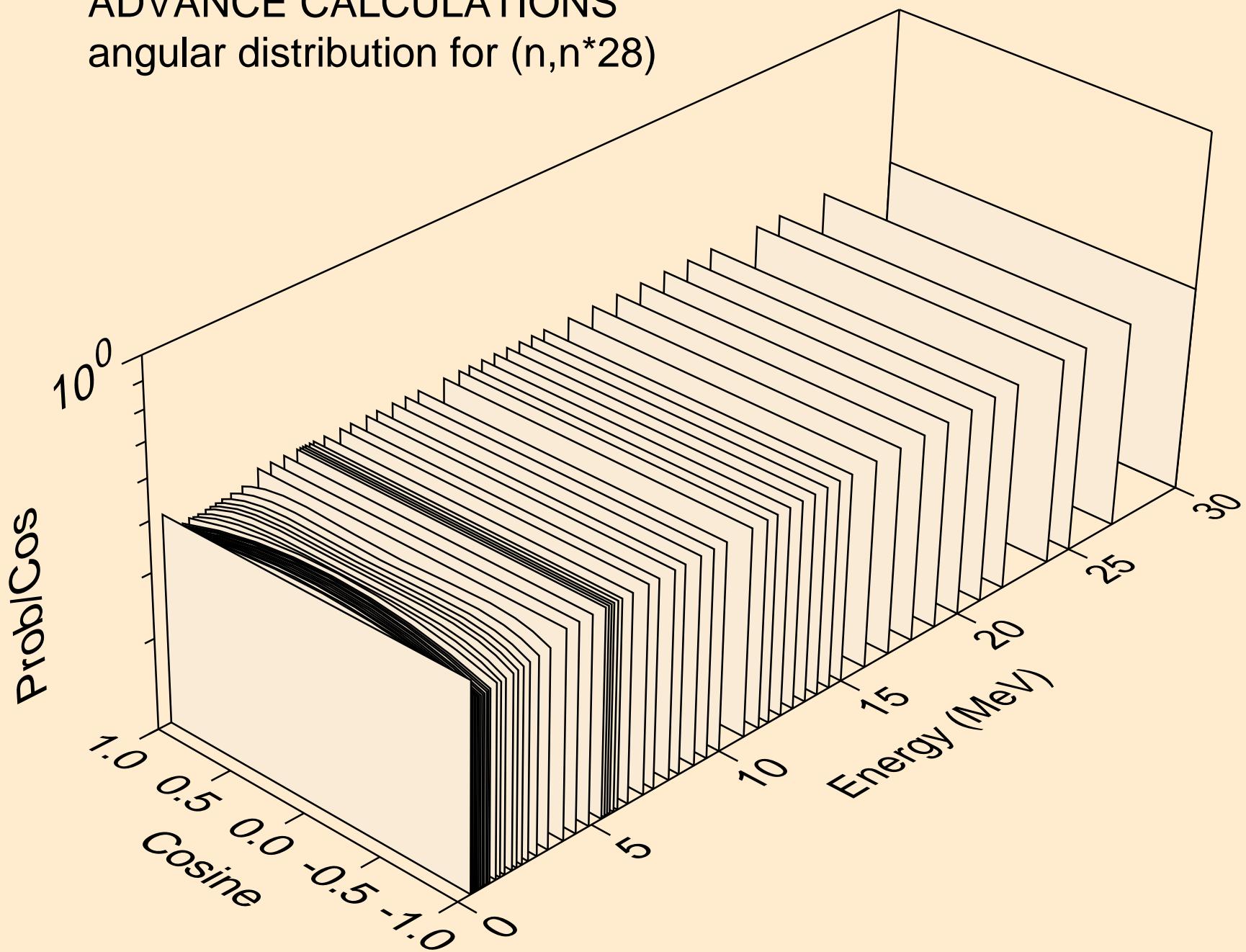
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*)_{27}$



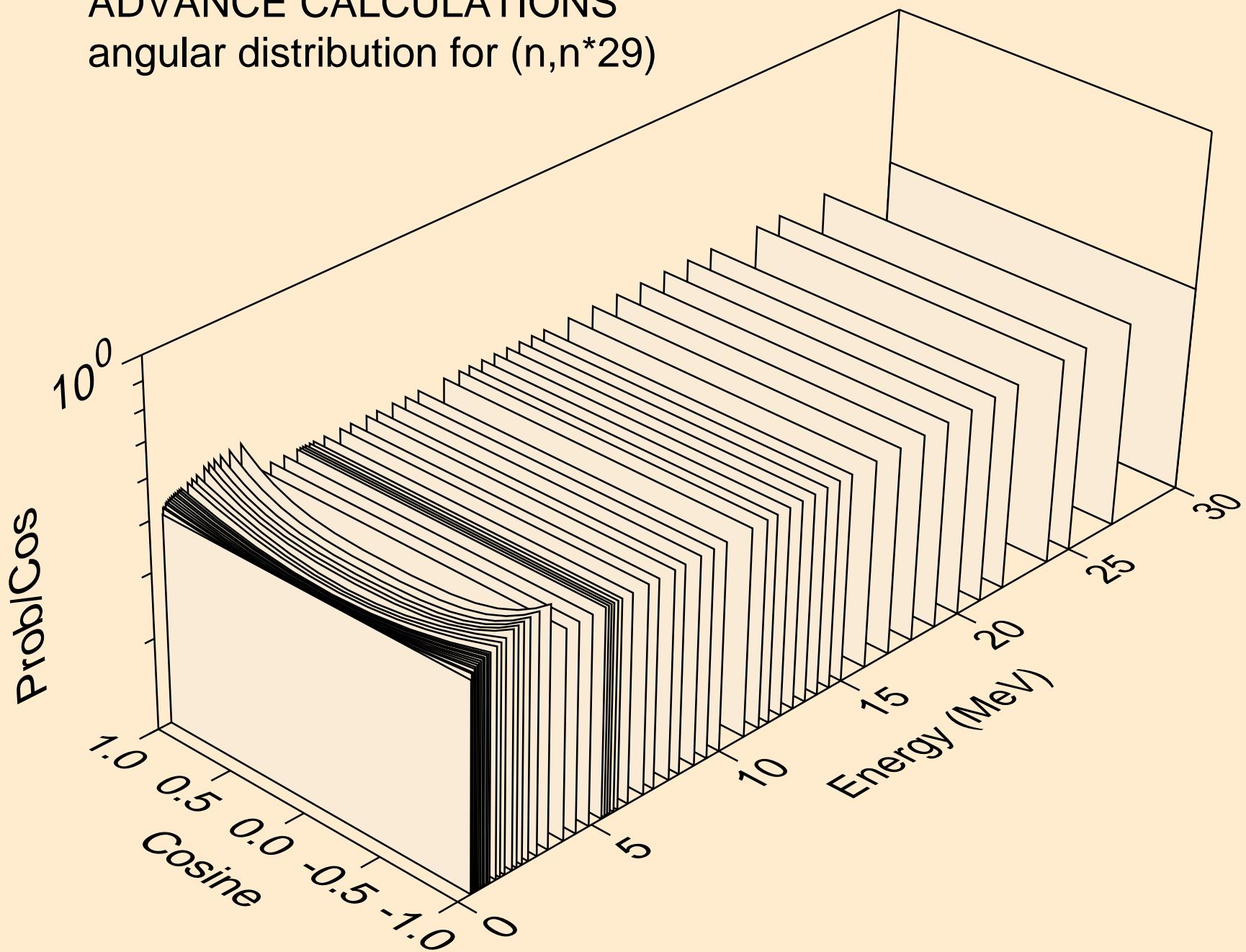
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*)^{28}$



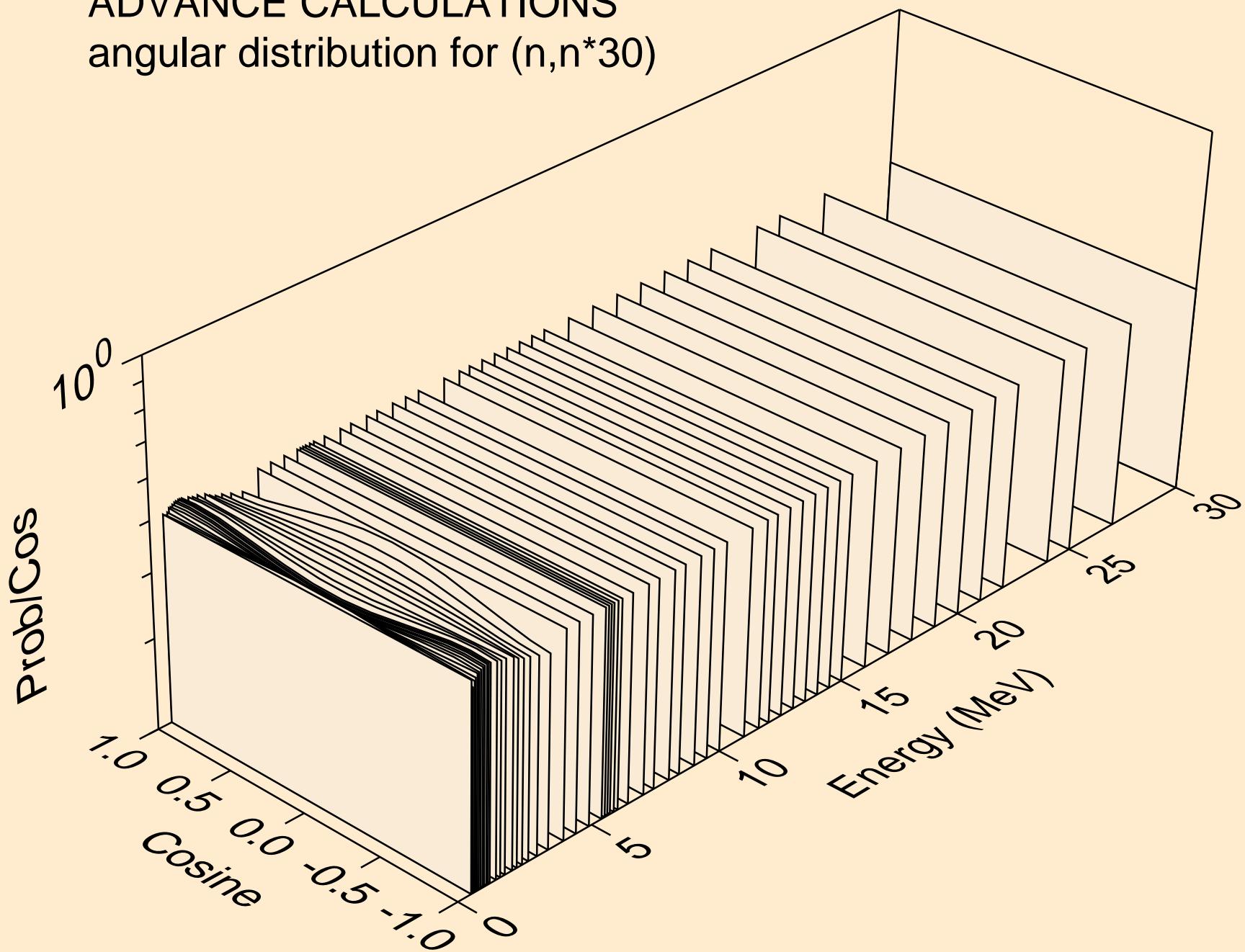
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*29)$



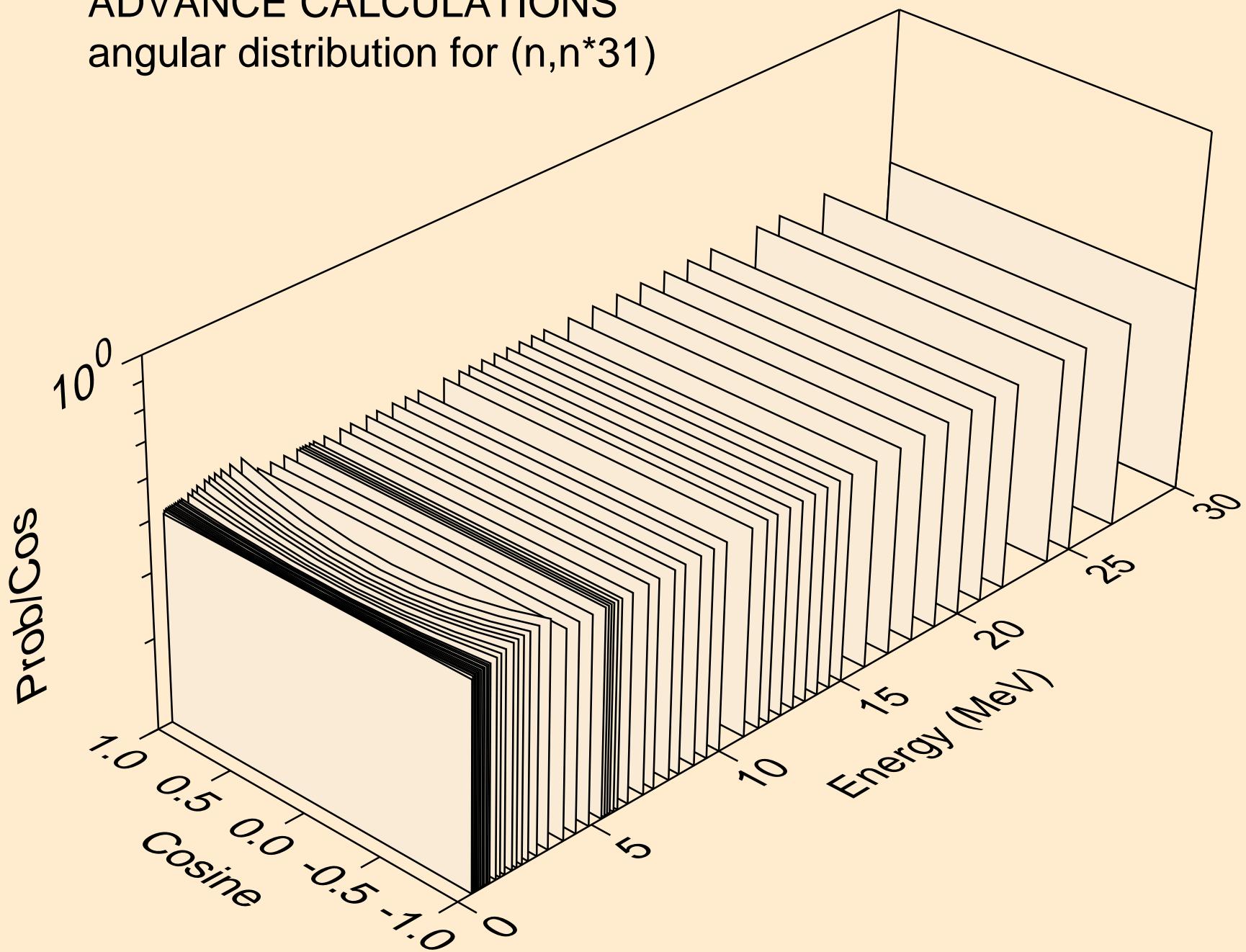
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*)30$



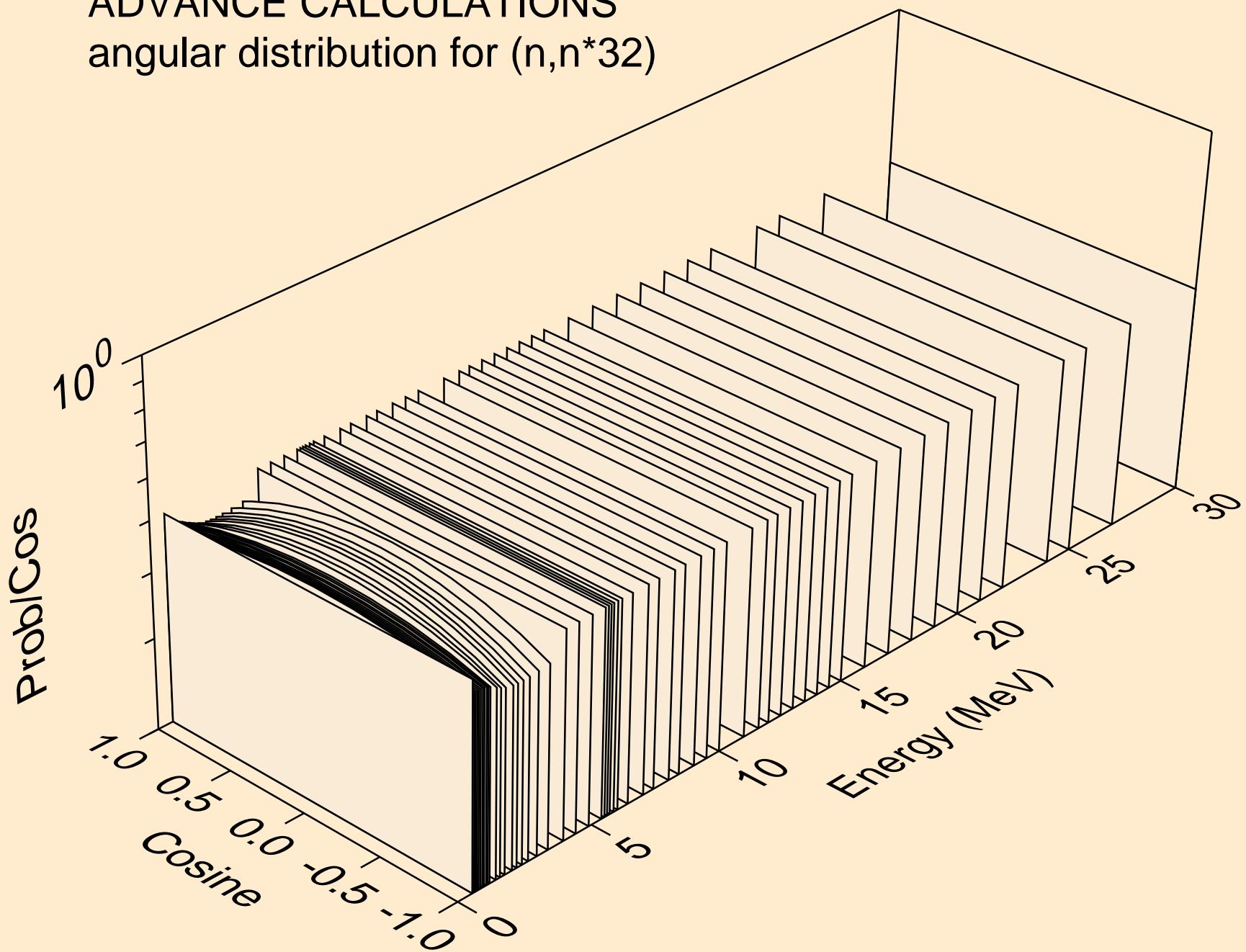
# ADVANCE CALCULATIONS

## angular distribution for ( $n, n^*31$ )



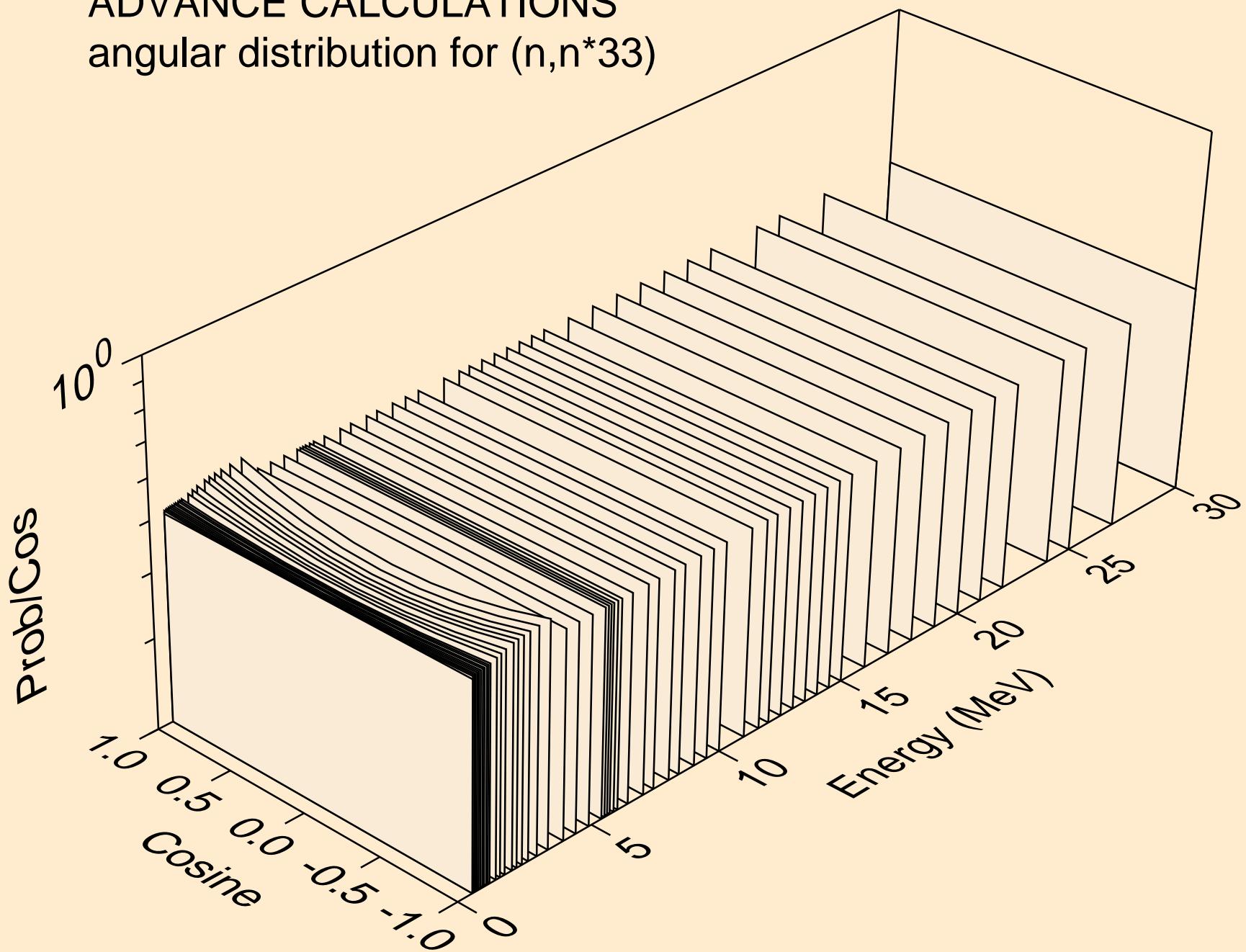
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*32)$



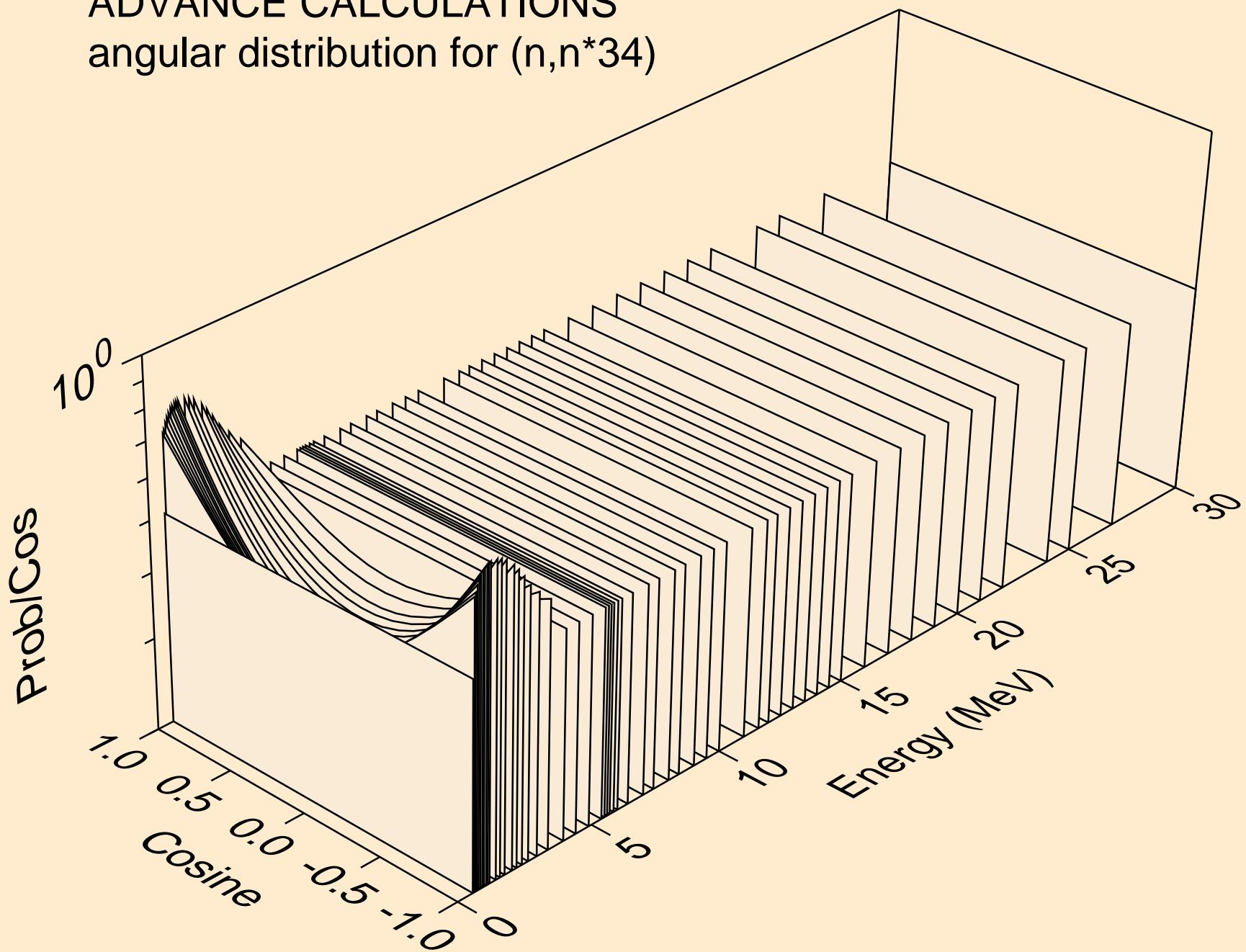
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*33)$



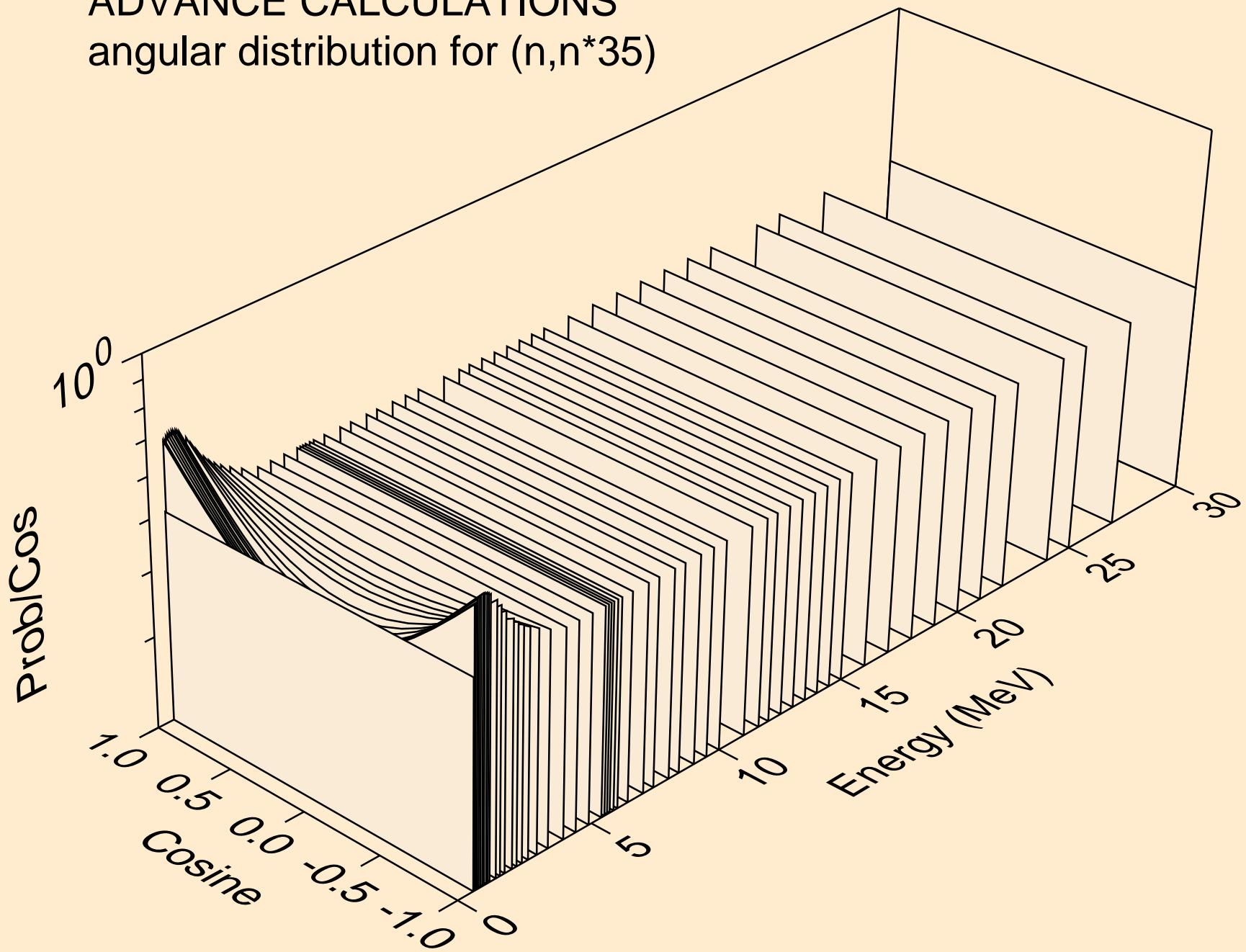
# ADVANCE CALCULATIONS

angular distribution for ( $n, n^*34$ )



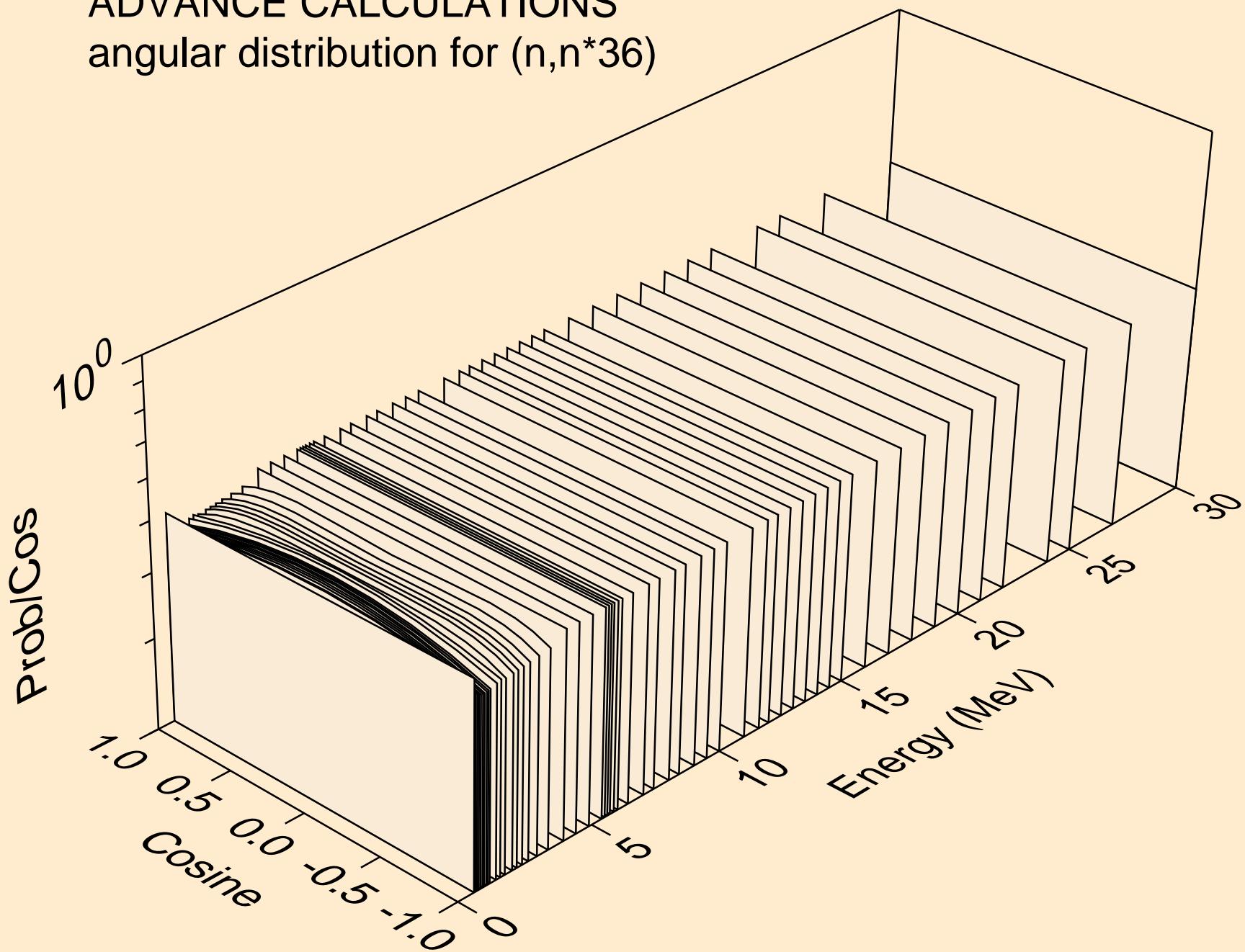
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*)^{35}$



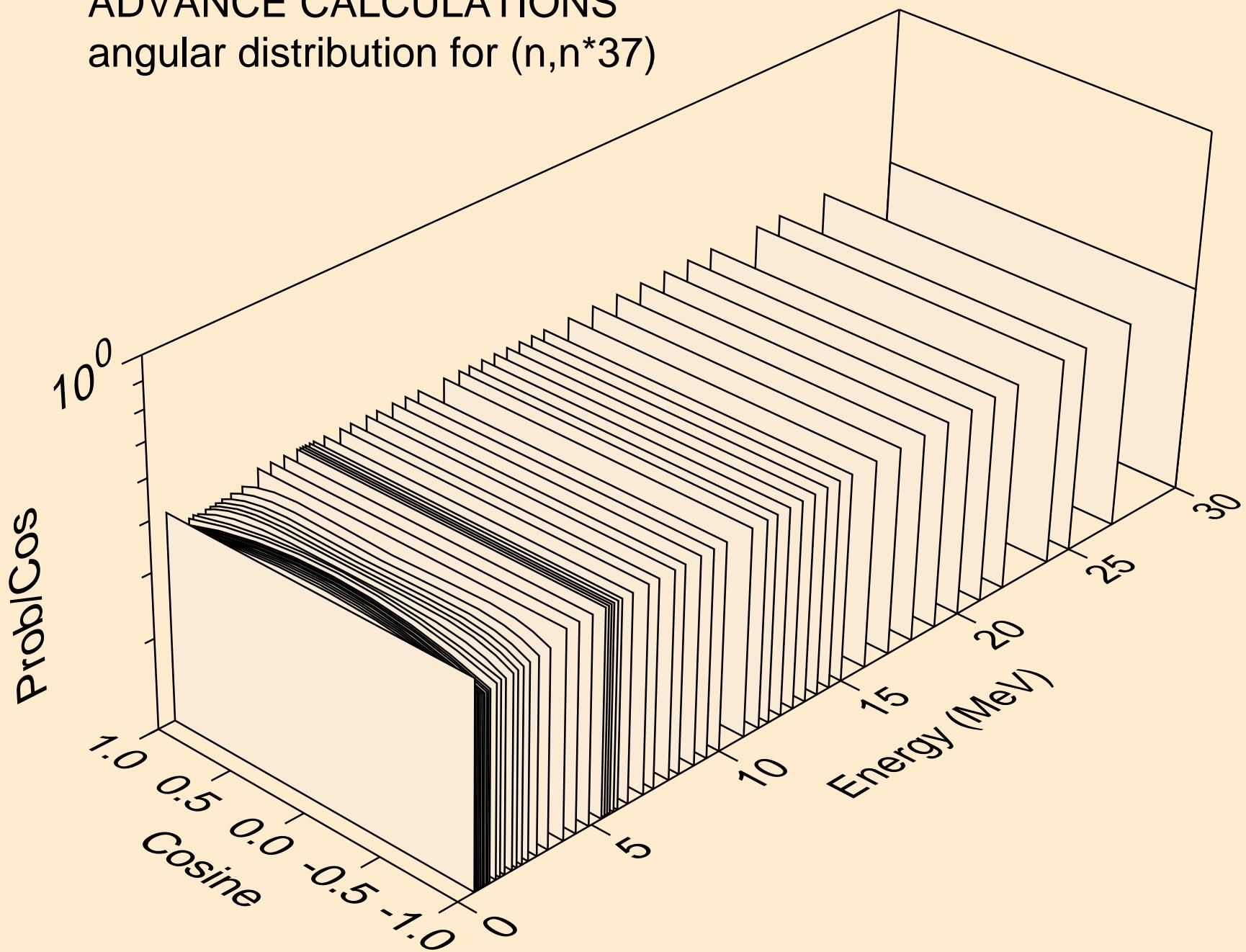
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*36)$



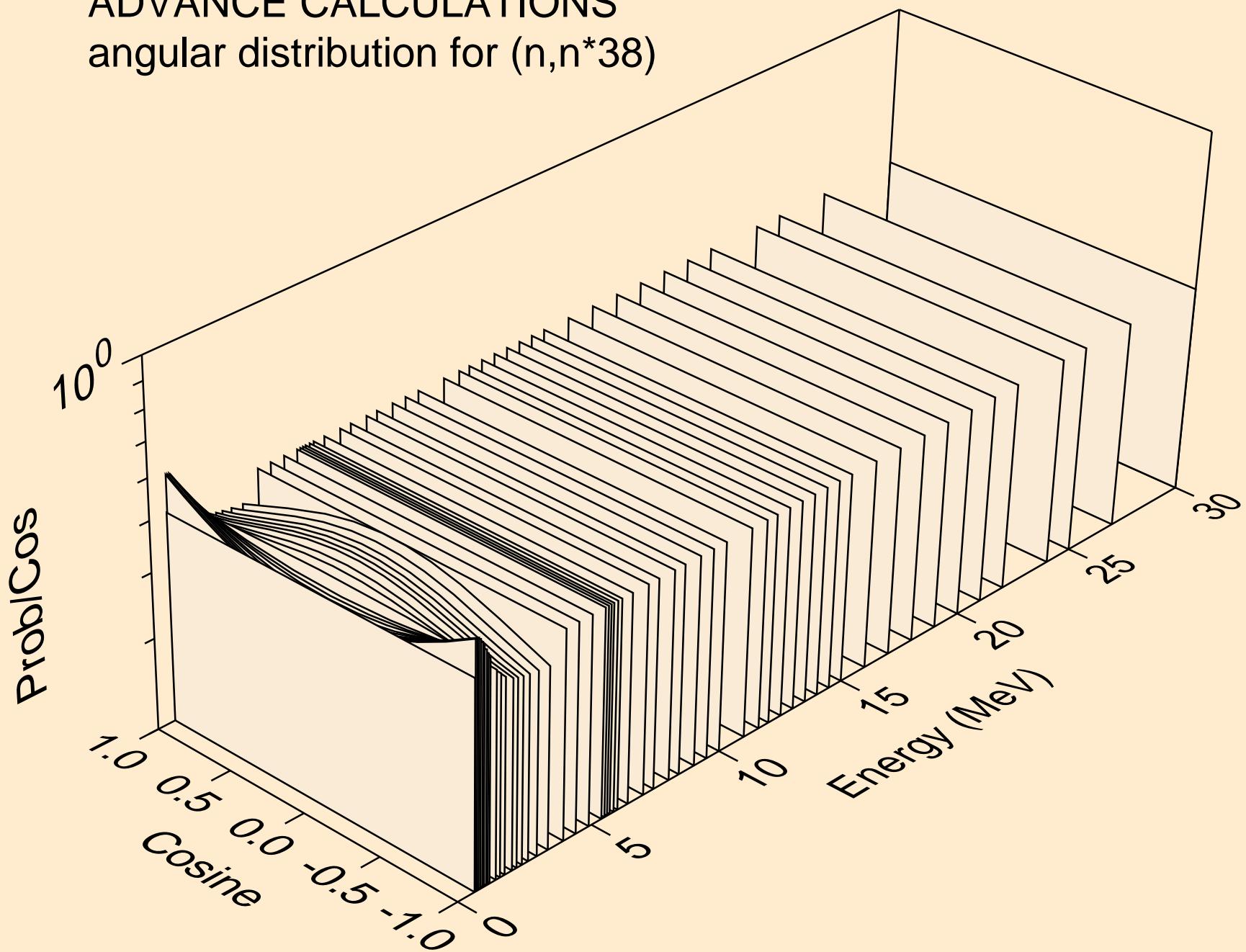
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*37)$



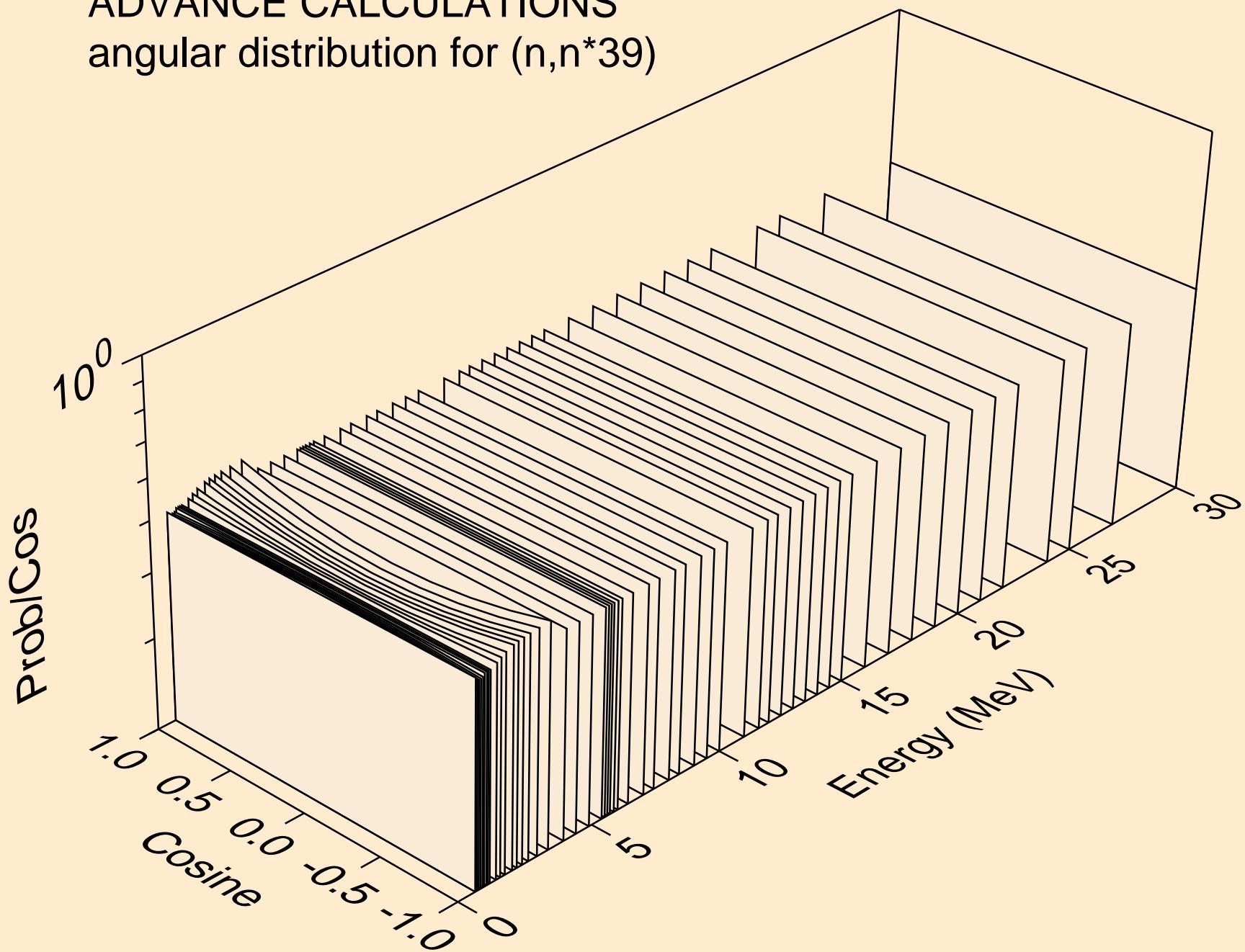
# ADVANCE CALCULATIONS

angular distribution for  $(n,n^*38)$



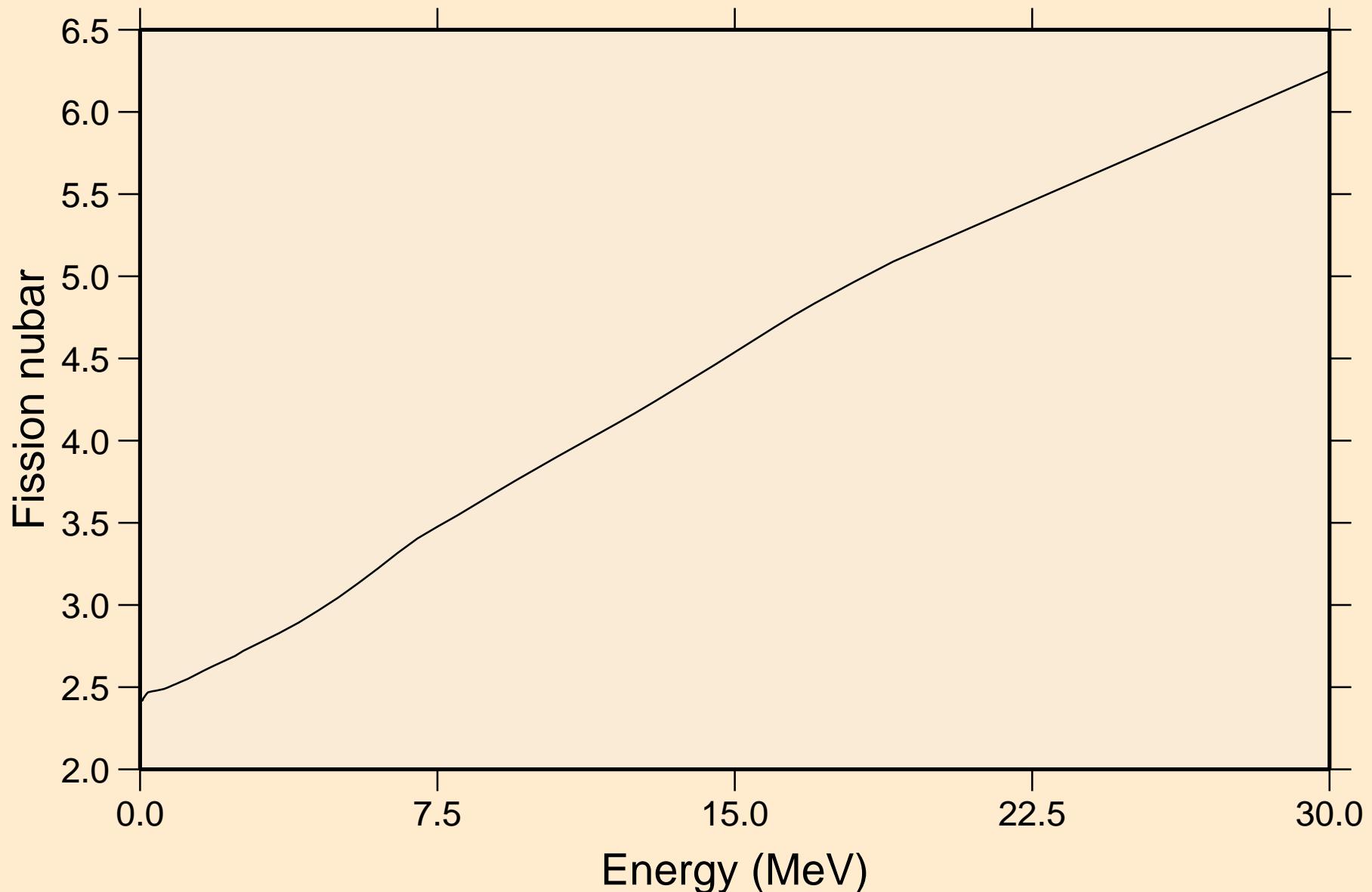
# ADVANCE CALCULATIONS

## angular distribution for (n,n\*39)



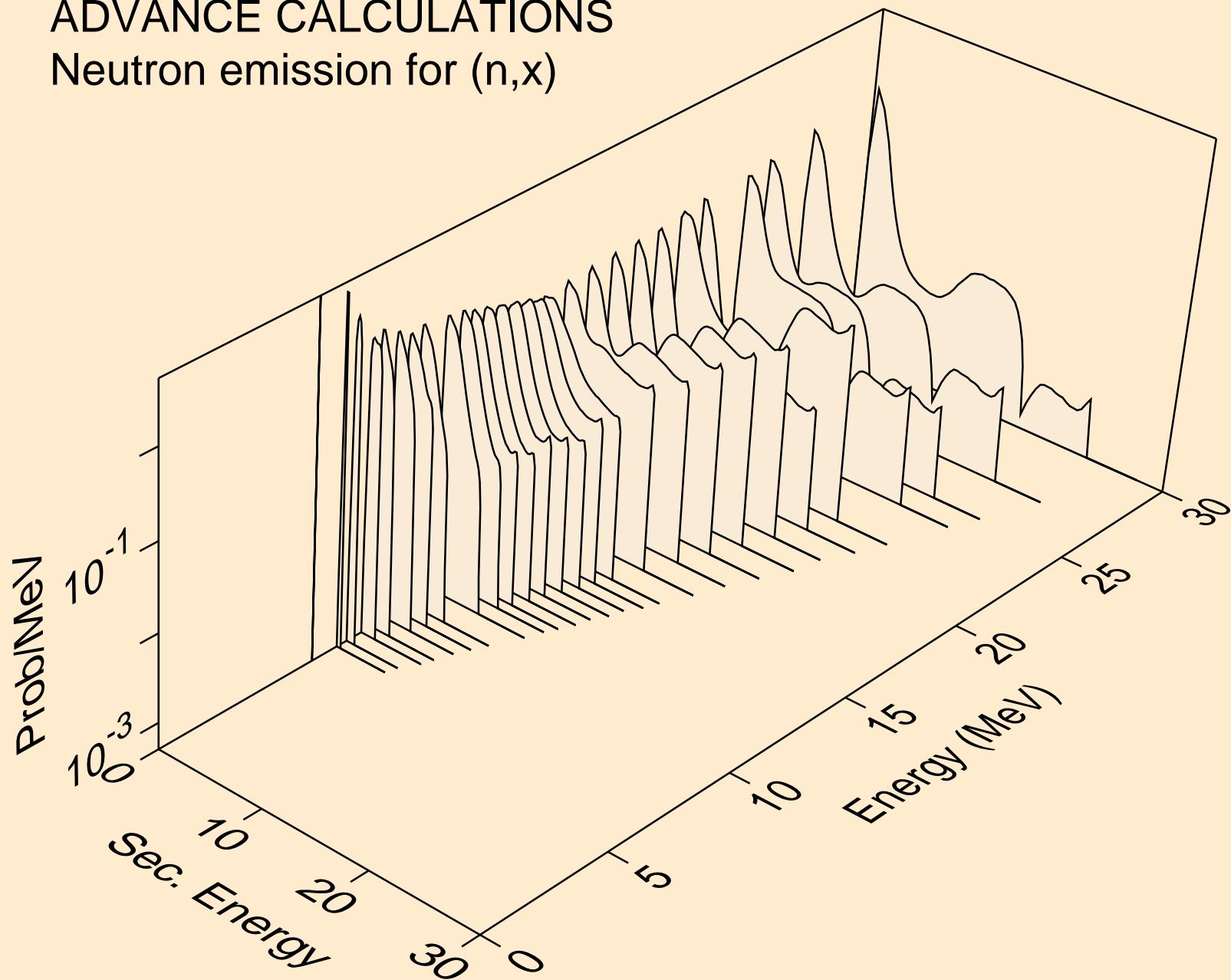
# ADVANCE CALCULATIONS

## Total fission nubar



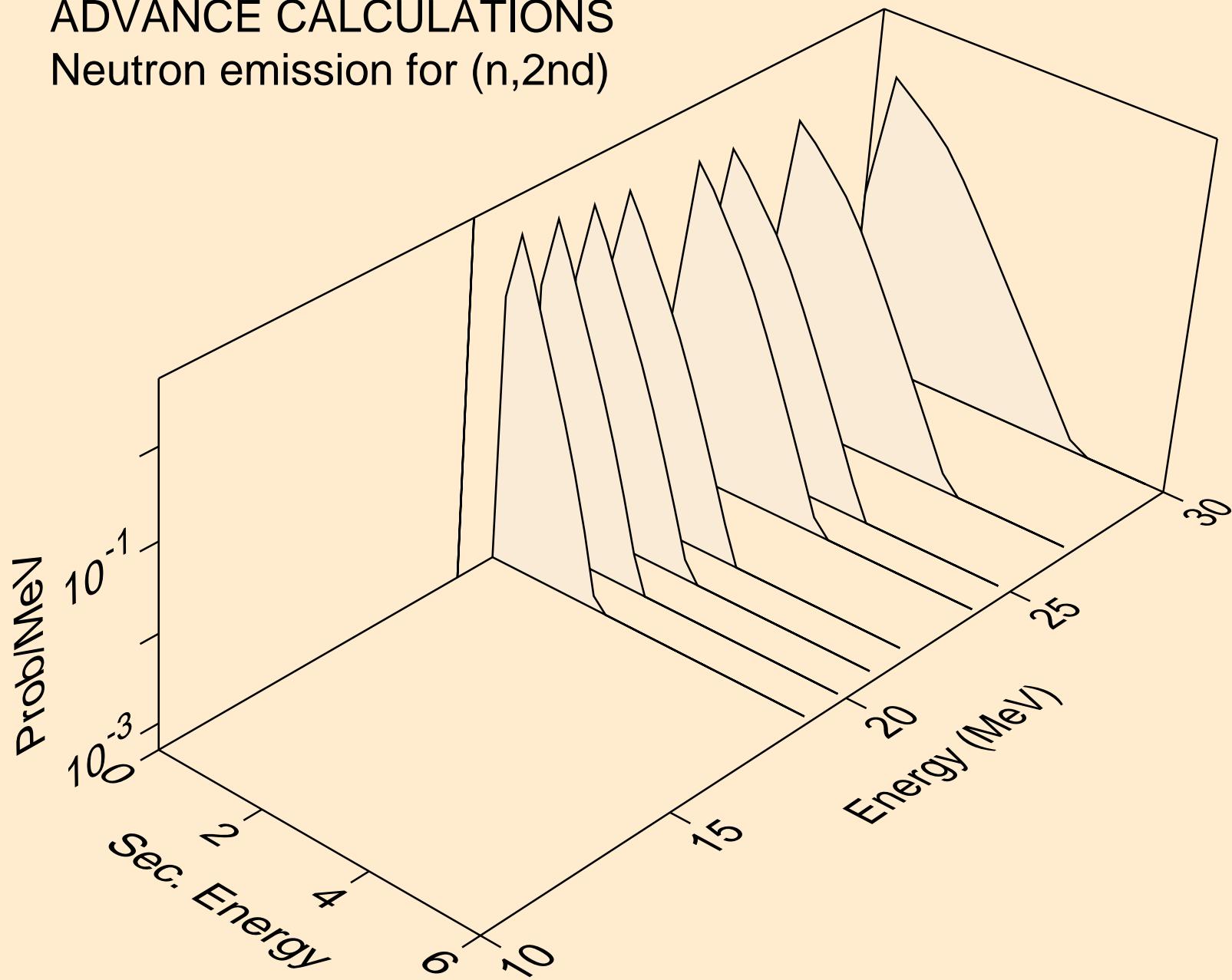
# ADVANCE CALCULATIONS

## Neutron emission for (n,x)



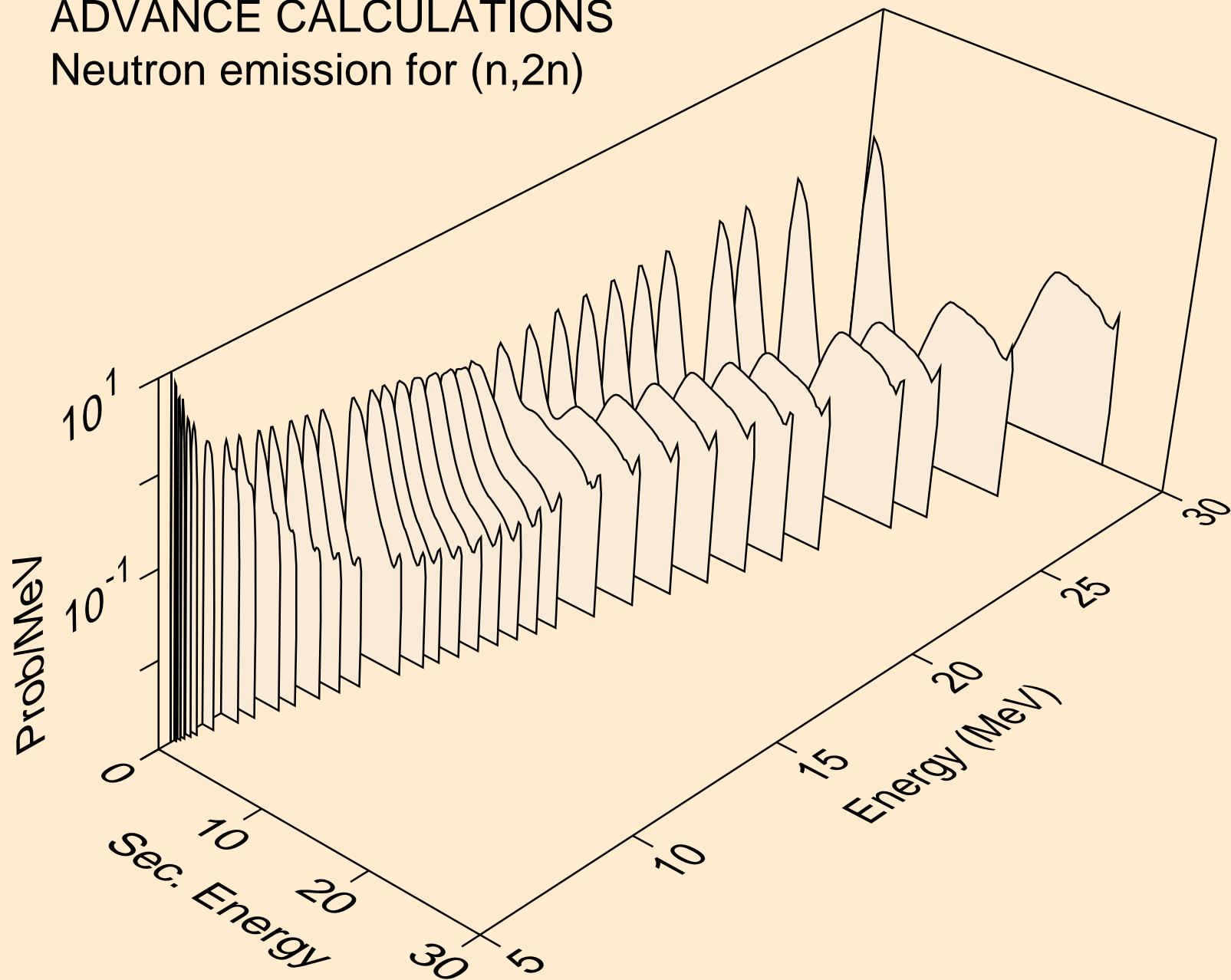
# ADVANCE CALCULATIONS

## Neutron emission for (n,2nd)



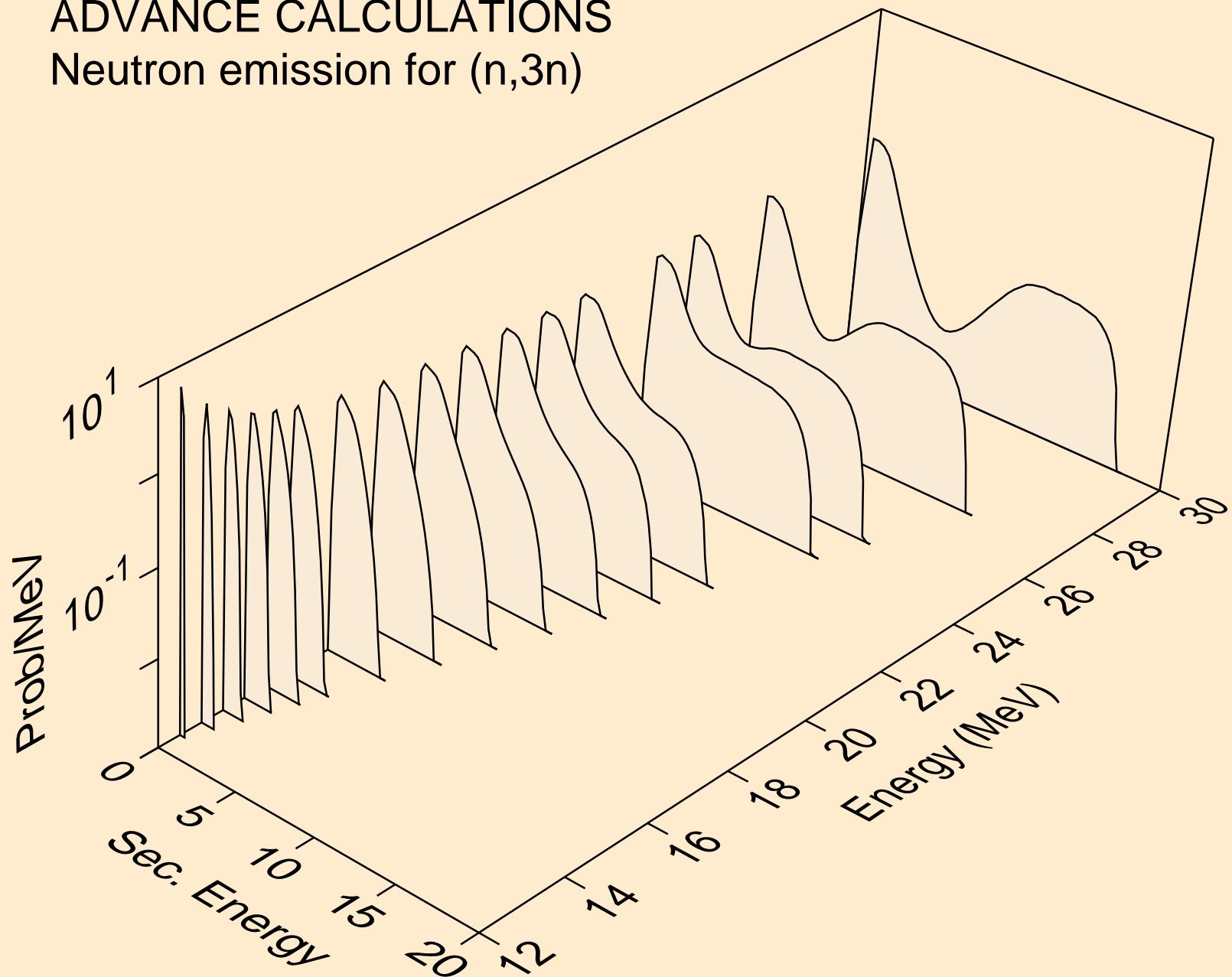
# ADVANCE CALCULATIONS

## Neutron emission for (n,2n)



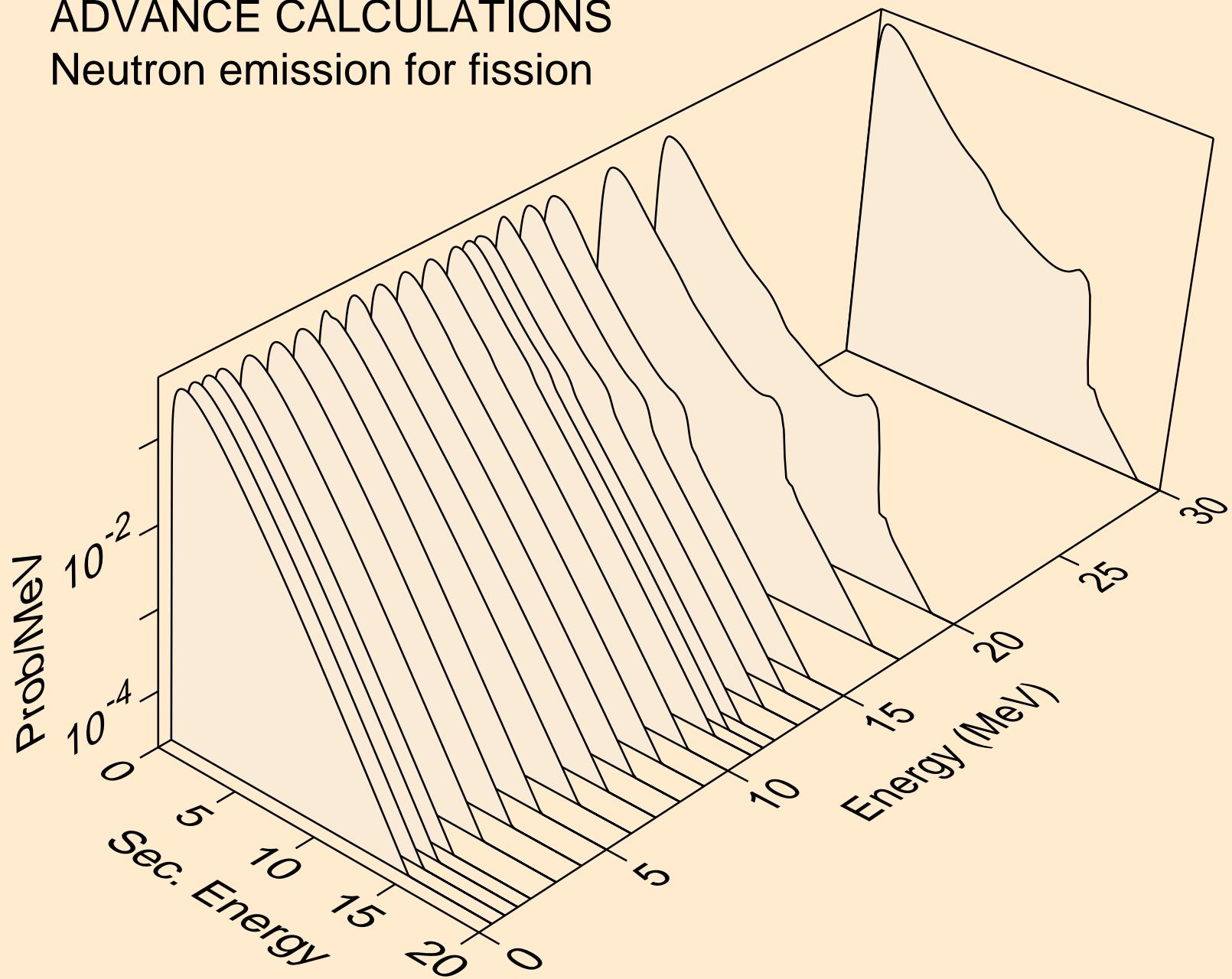
# ADVANCE CALCULATIONS

## Neutron emission for (n,3n)



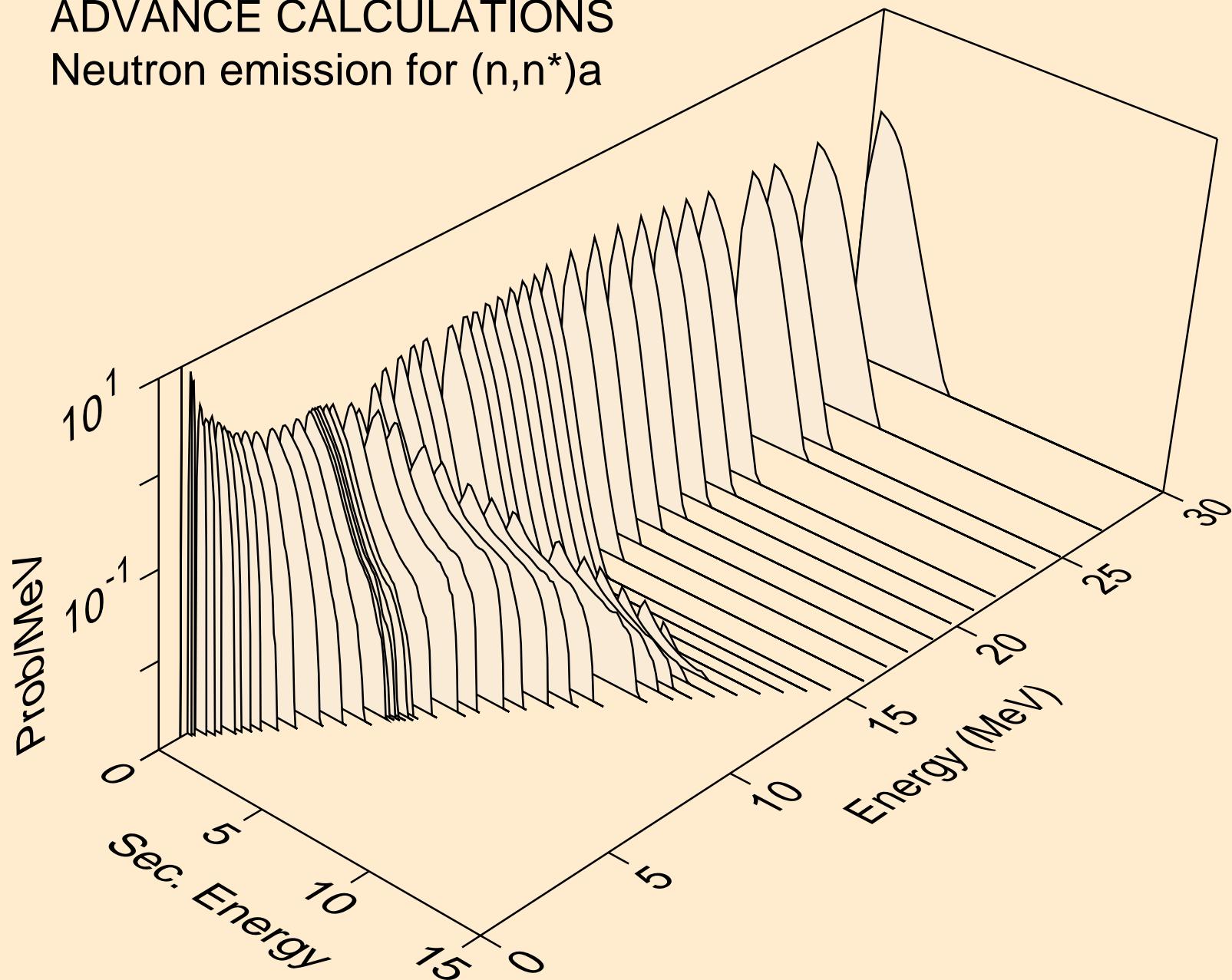
# ADVANCE CALCULATIONS

## Neutron emission for fission



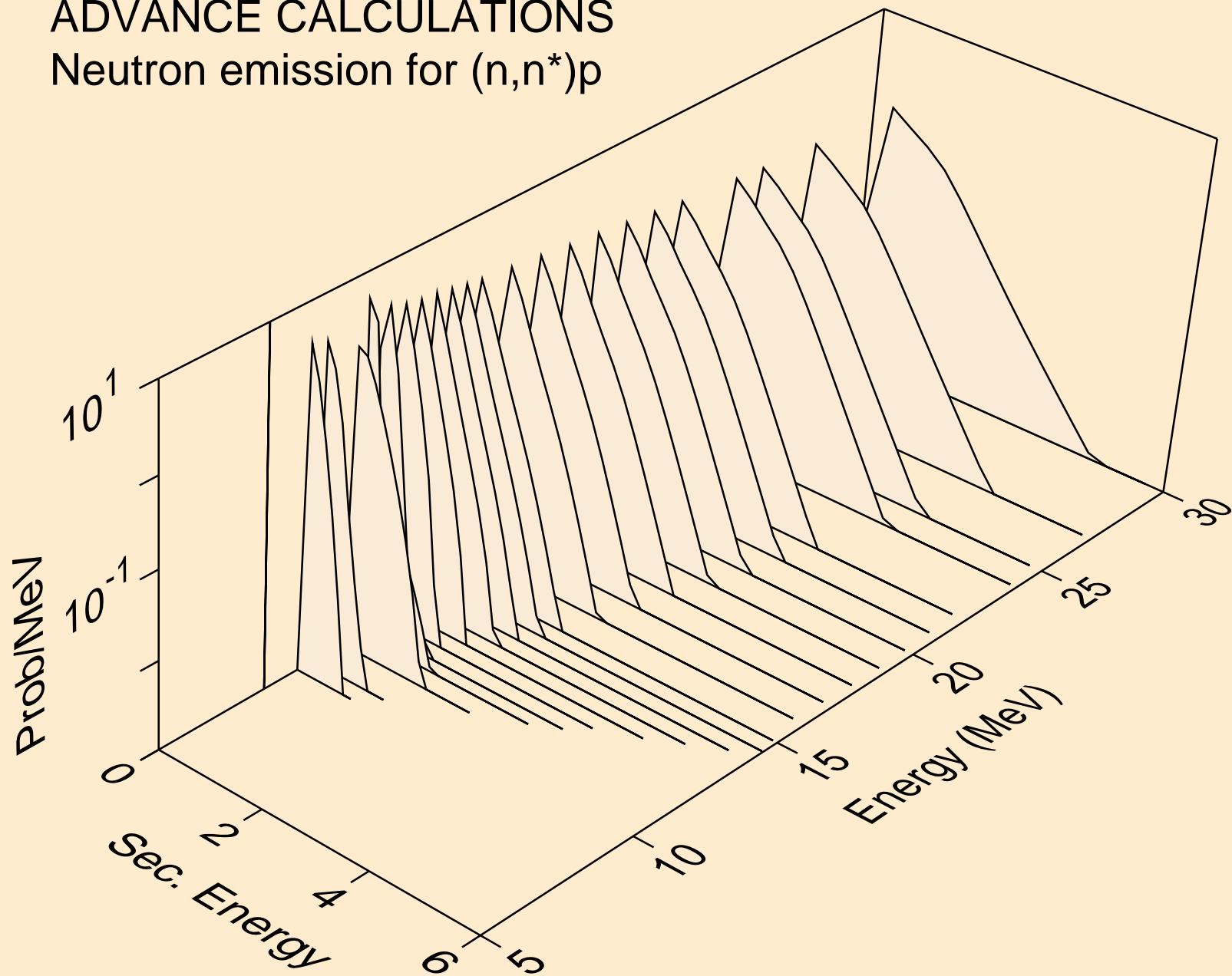
# ADVANCE CALCULATIONS

## Neutron emission for $(n,n^*)a$



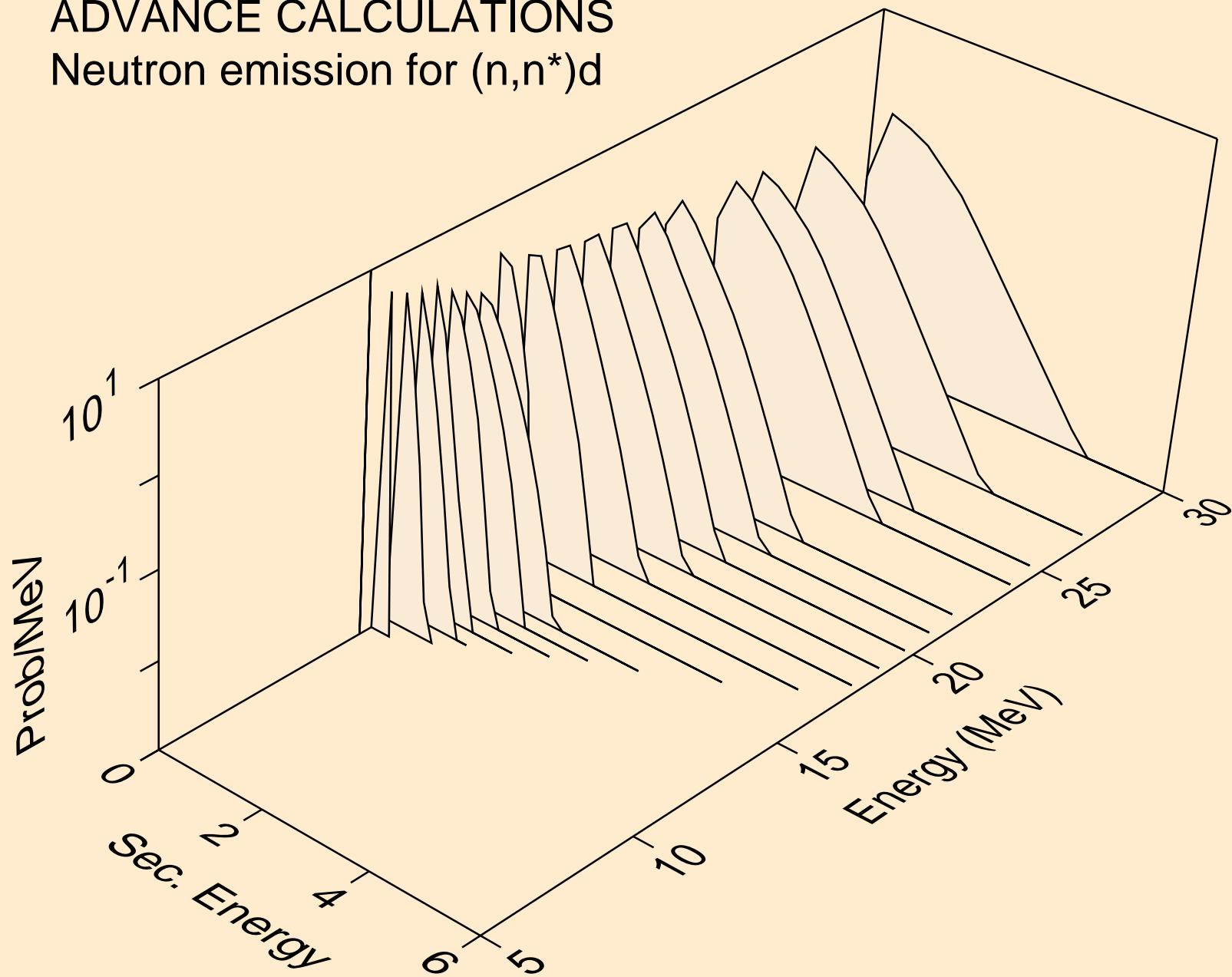
# ADVANCE CALCULATIONS

## Neutron emission for $(n,n^*)p$



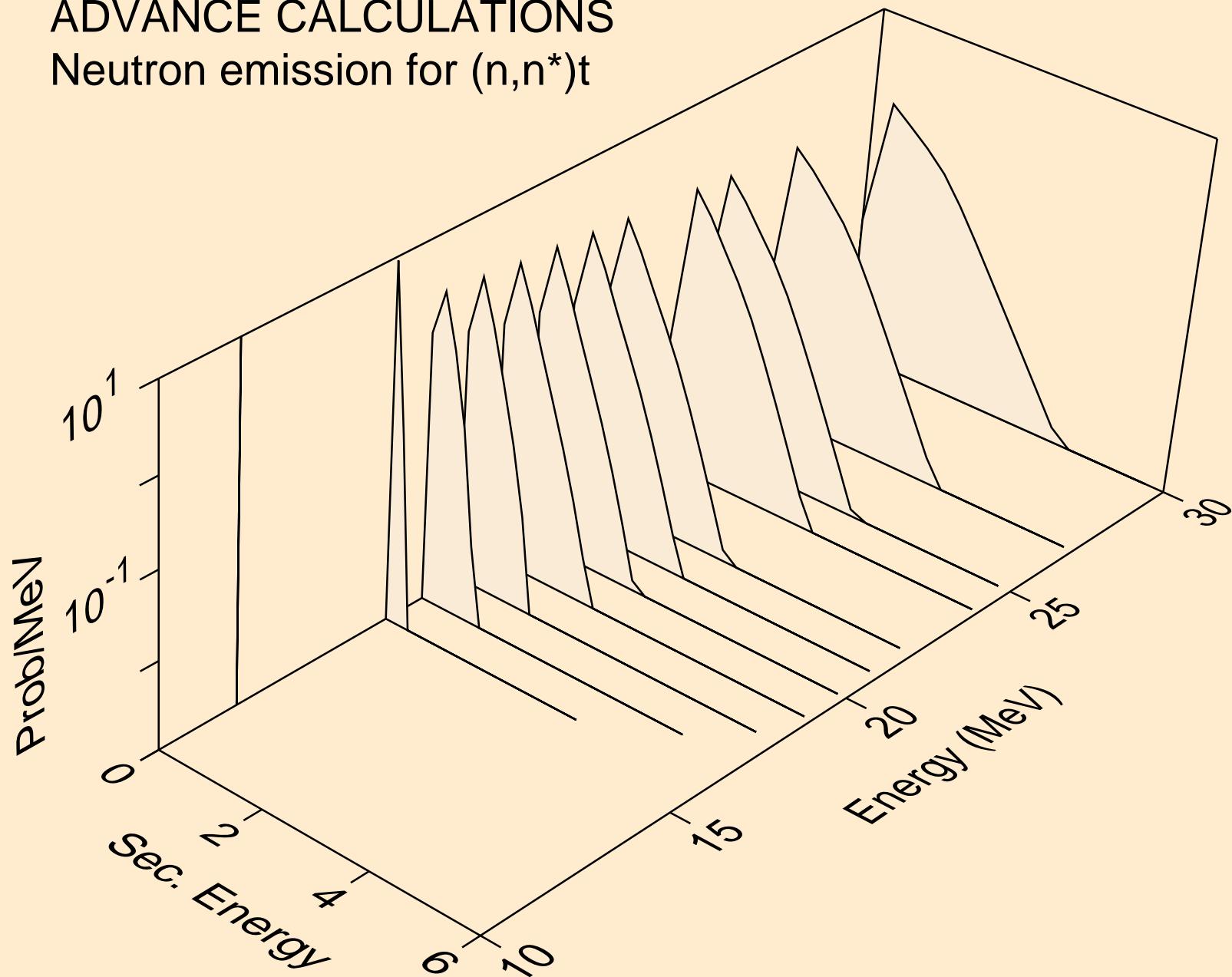
# ADVANCE CALCULATIONS

## Neutron emission for $(n,n^*)d$



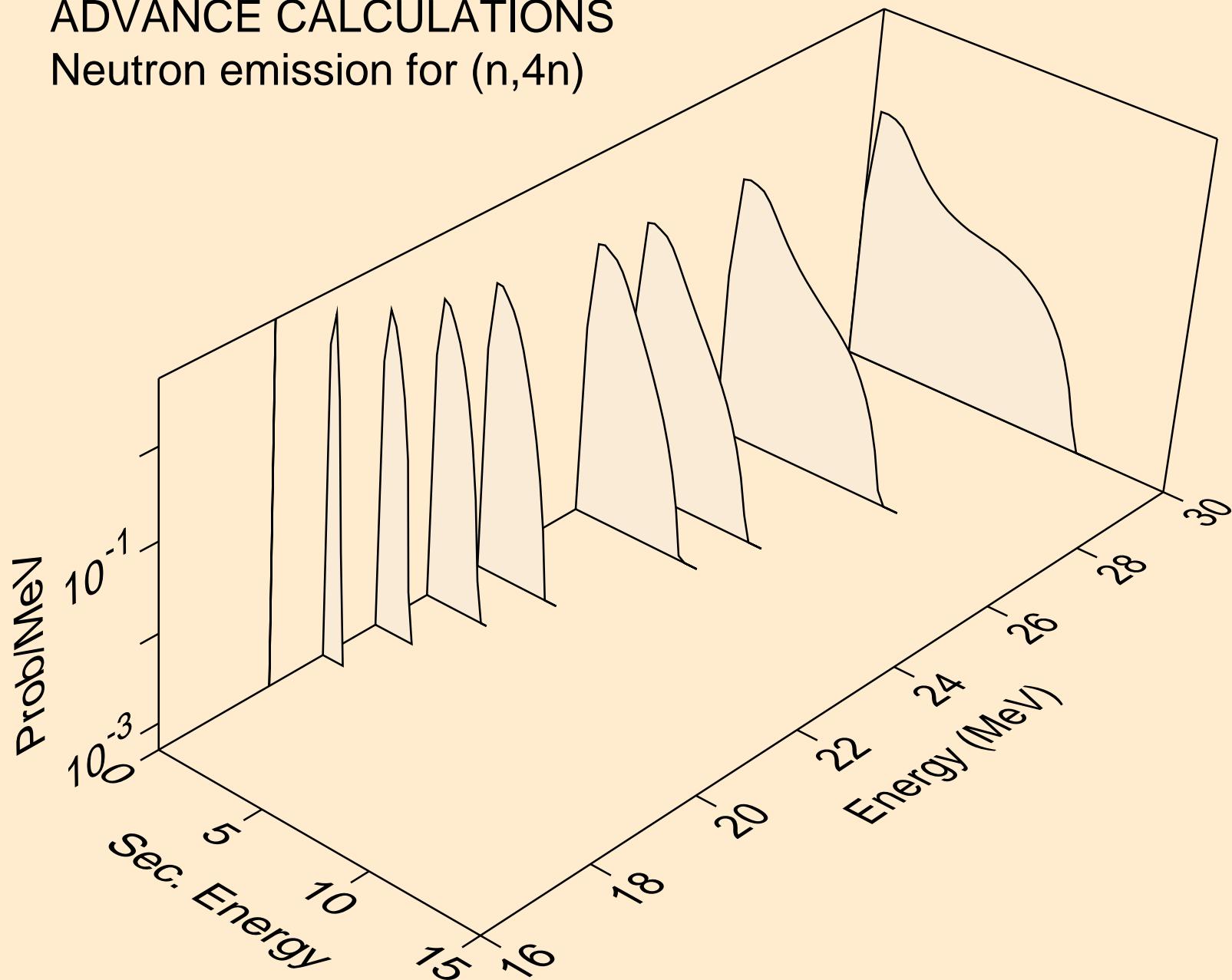
# ADVANCE CALCULATIONS

## Neutron emission for $(n,n^*)t$



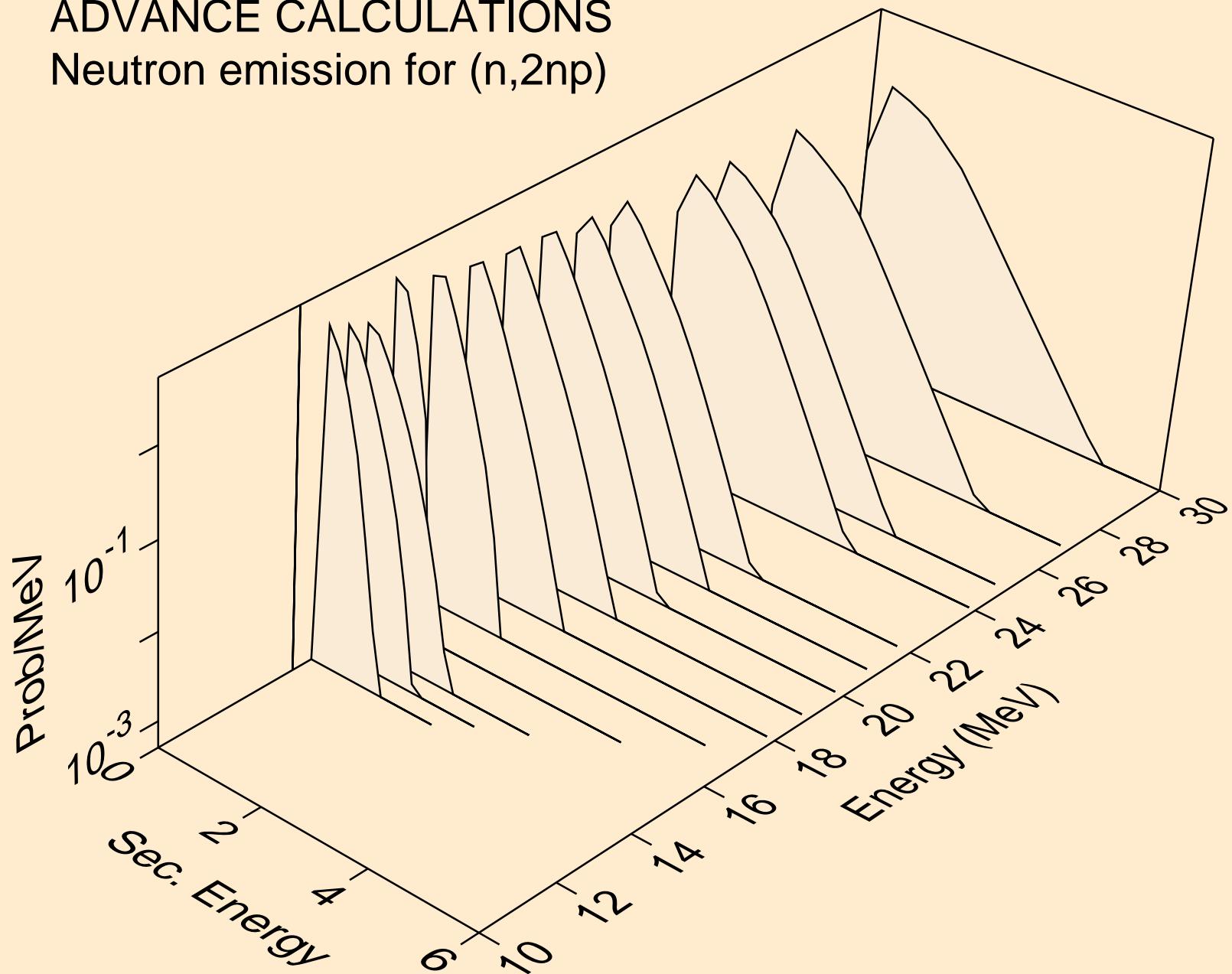
# ADVANCE CALCULATIONS

## Neutron emission for (n,4n)



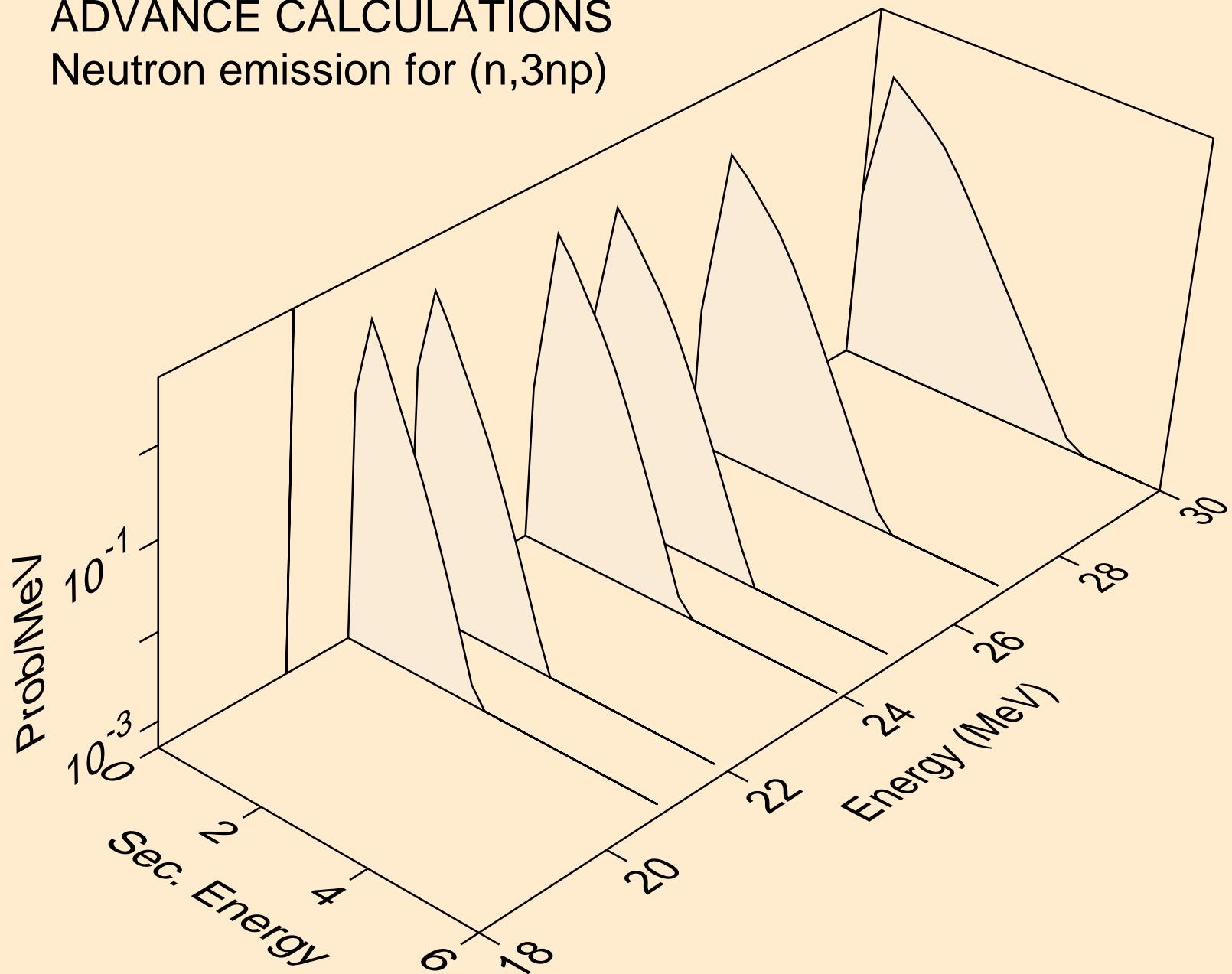
# ADVANCE CALCULATIONS

## Neutron emission for (n,2np)



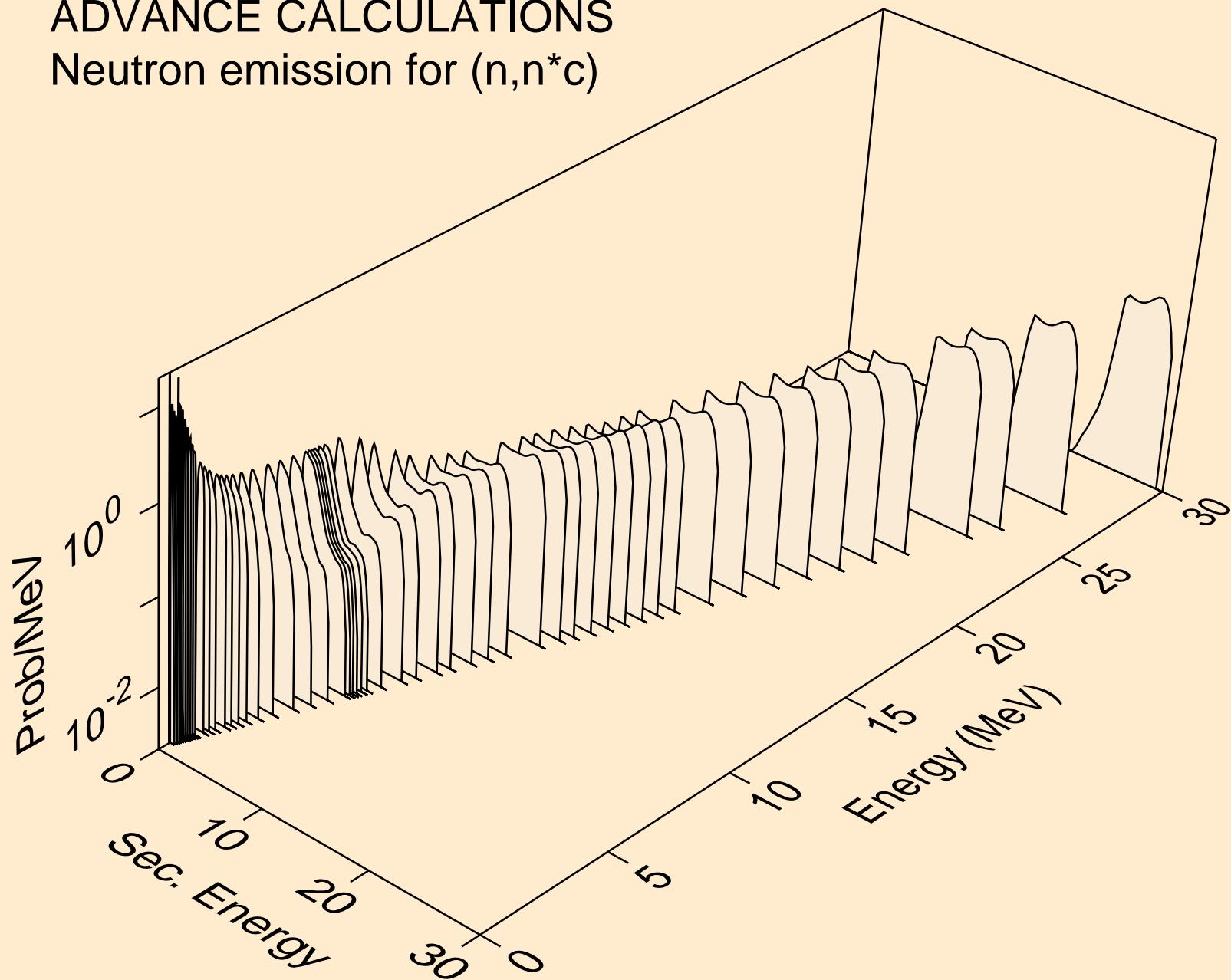
# ADVANCE CALCULATIONS

## Neutron emission for (n,3np)



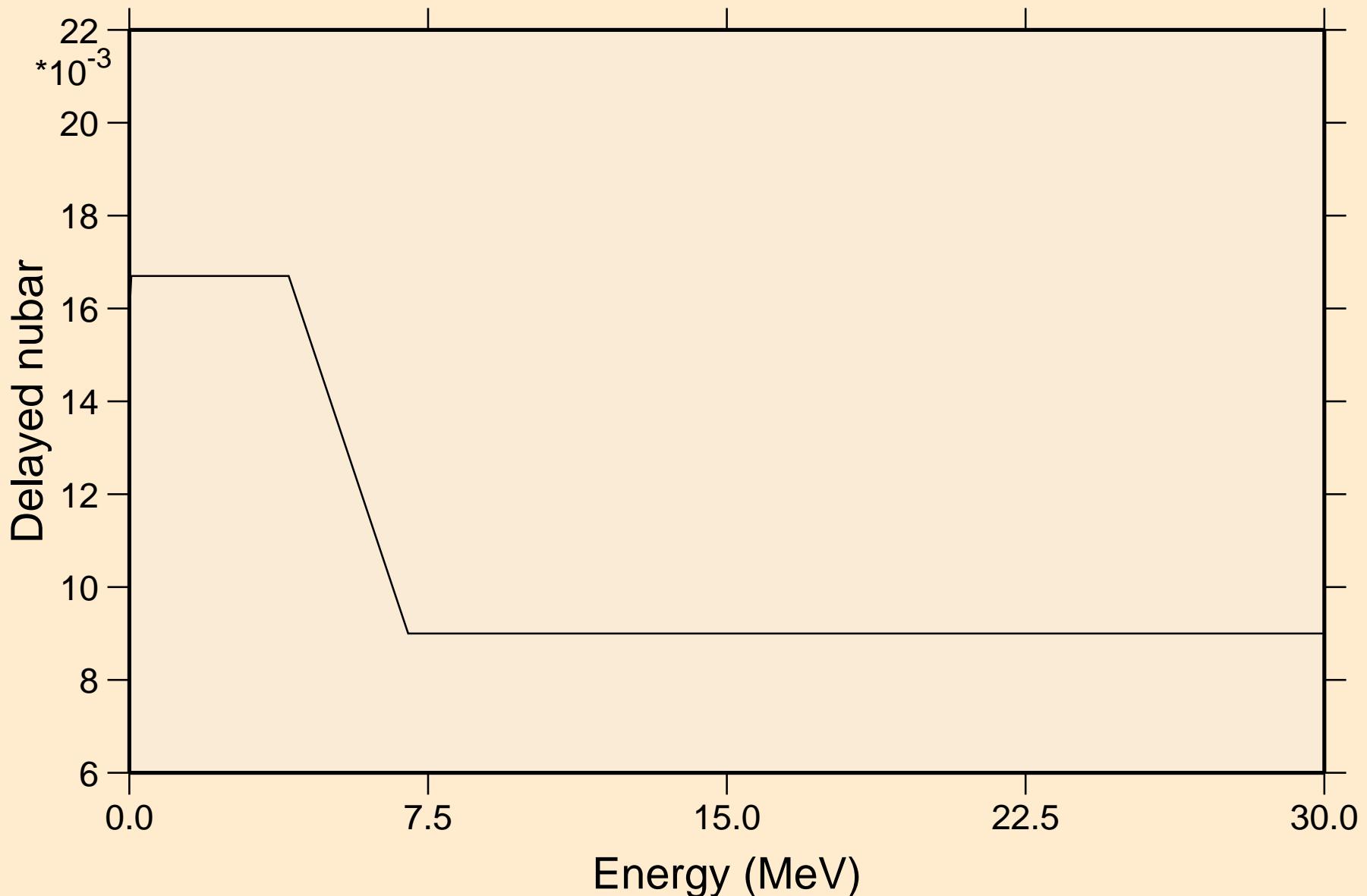
# ADVANCE CALCULATIONS

## Neutron emission for $(n,n^*c)$



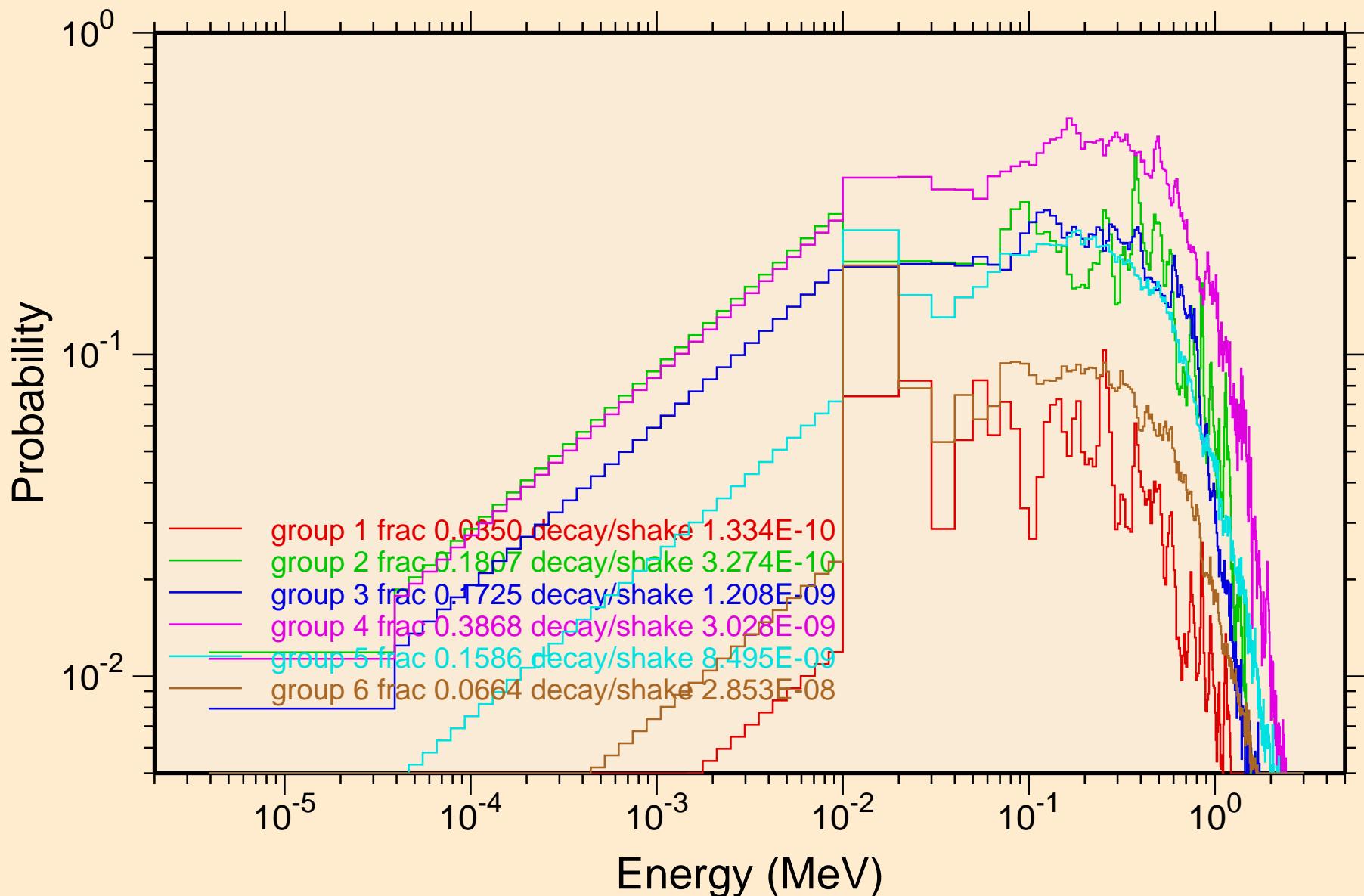
# ADVANCE CALCULATIONS

## Delayed nubar



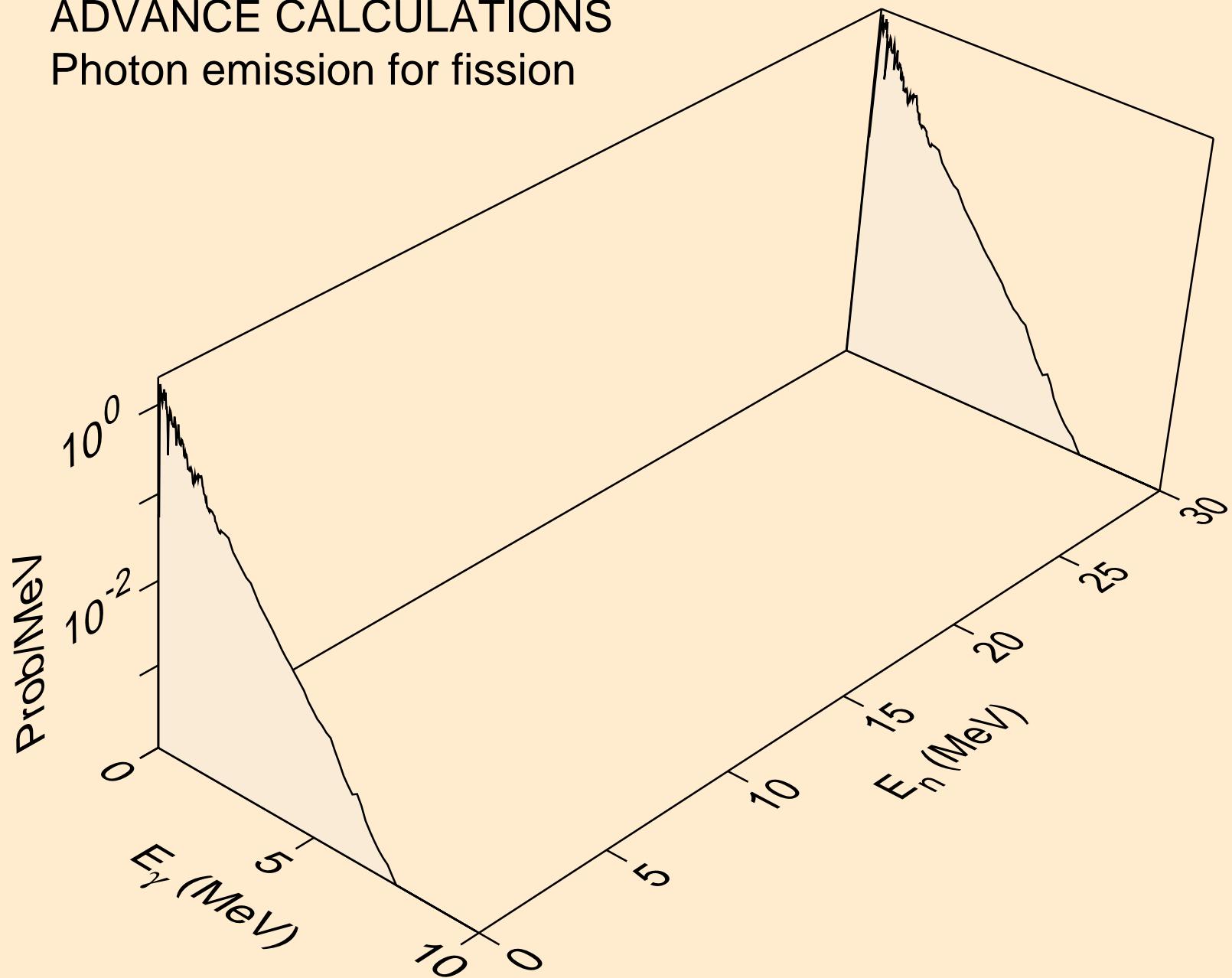
# ADVANCE CALCULATIONS

## Delayed neutron spectra



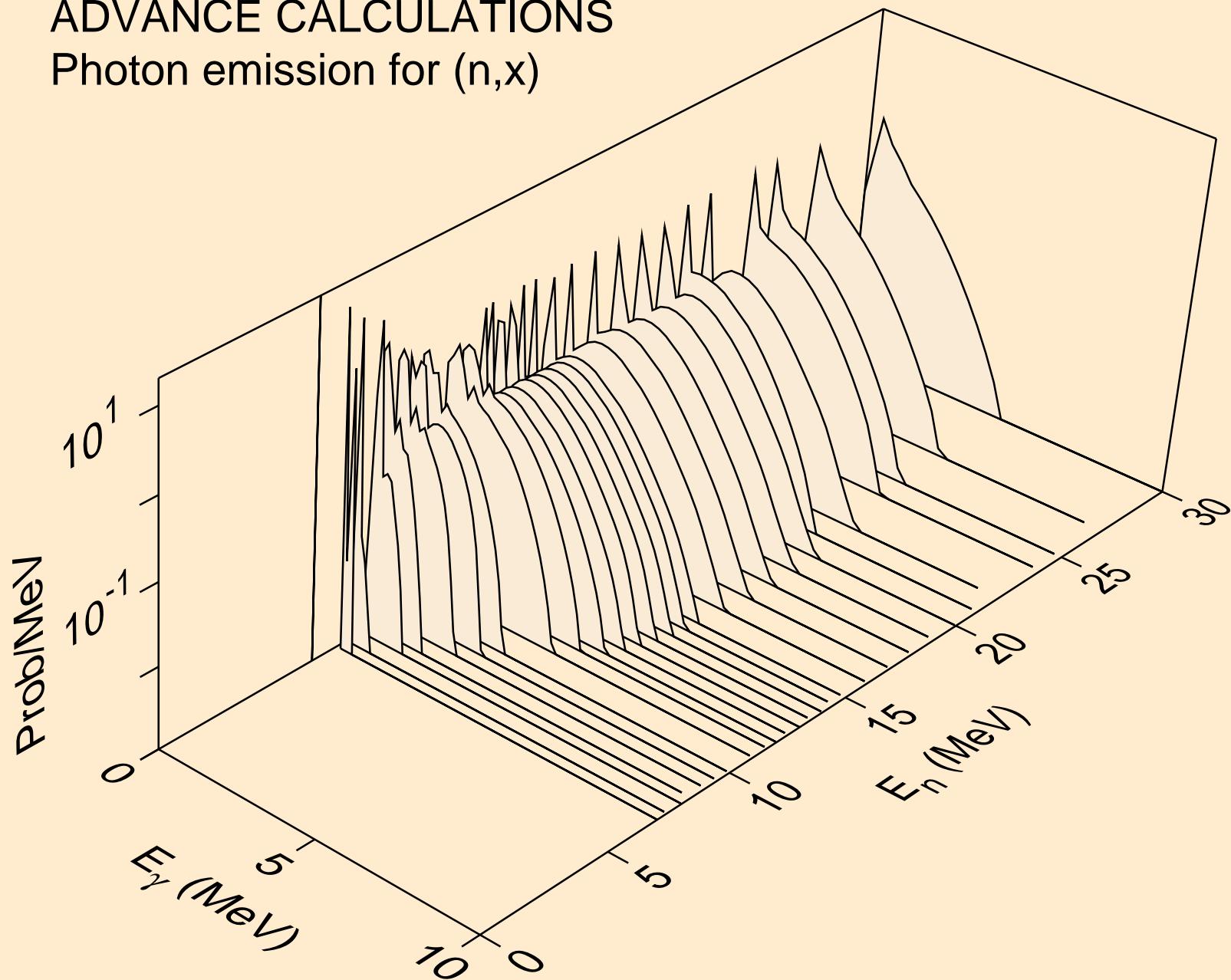
# ADVANCE CALCULATIONS

## Photon emission for fission



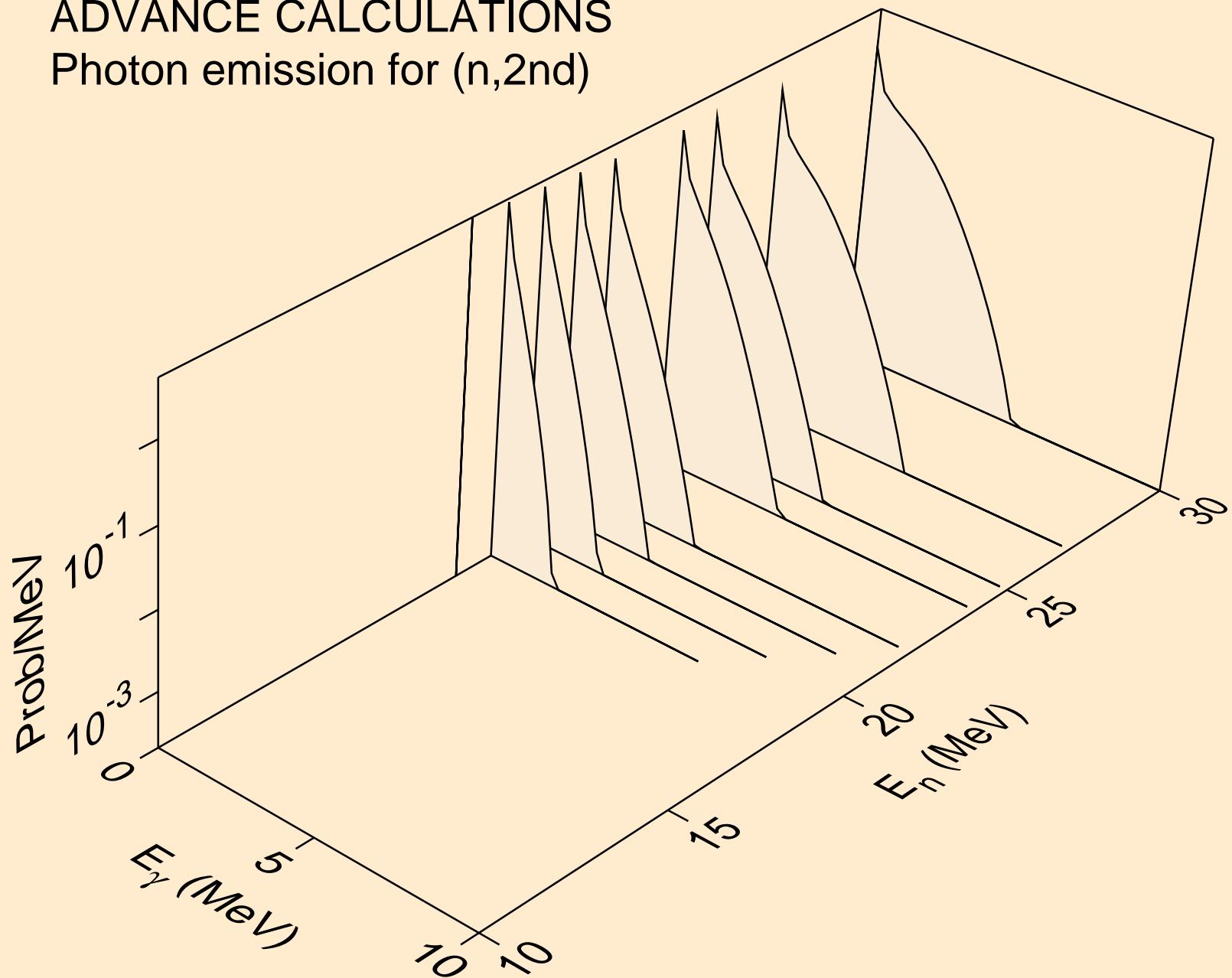
# ADVANCE CALCULATIONS

## Photon emission for (n,x)



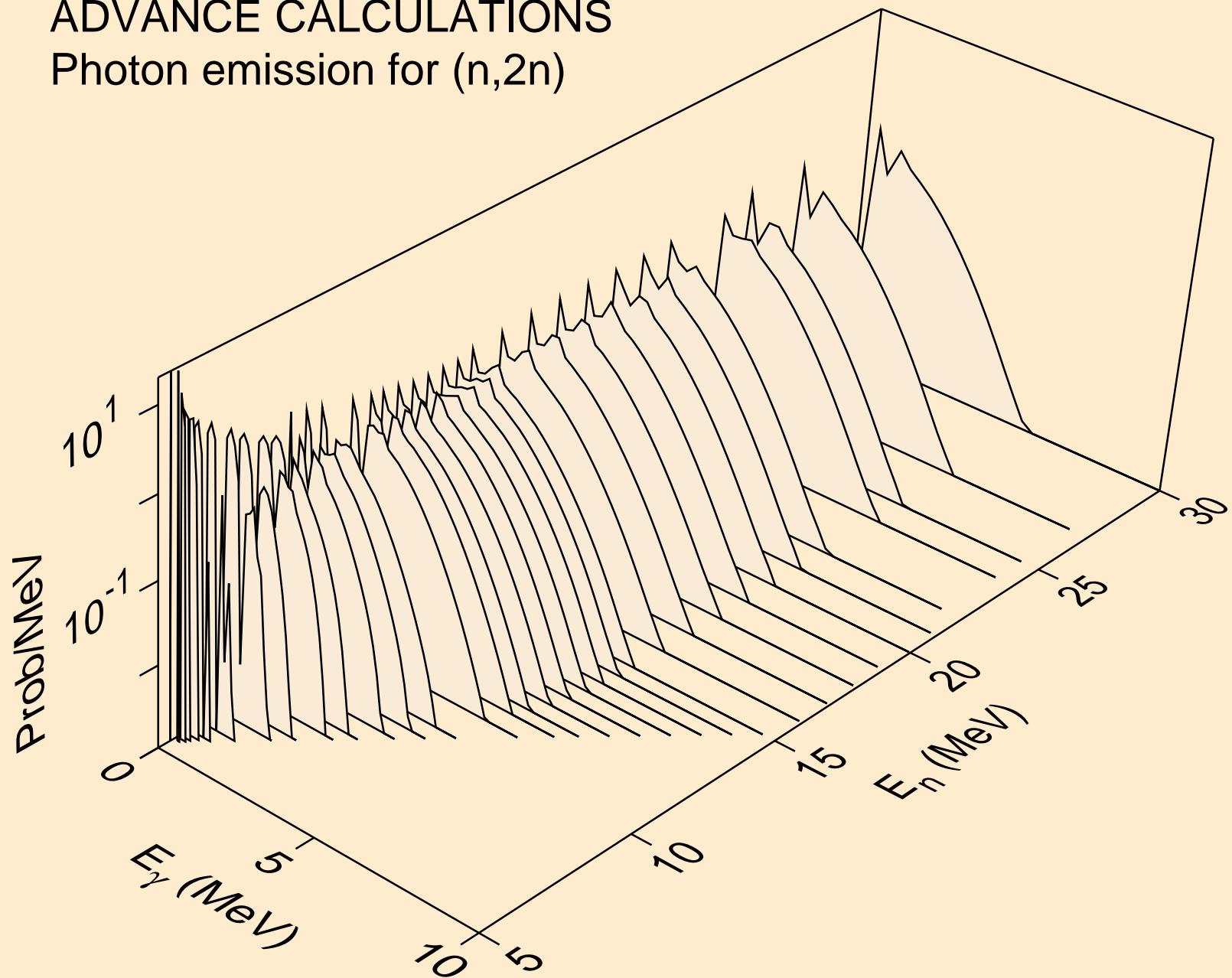
# ADVANCE CALCULATIONS

## Photon emission for (n,2nd)



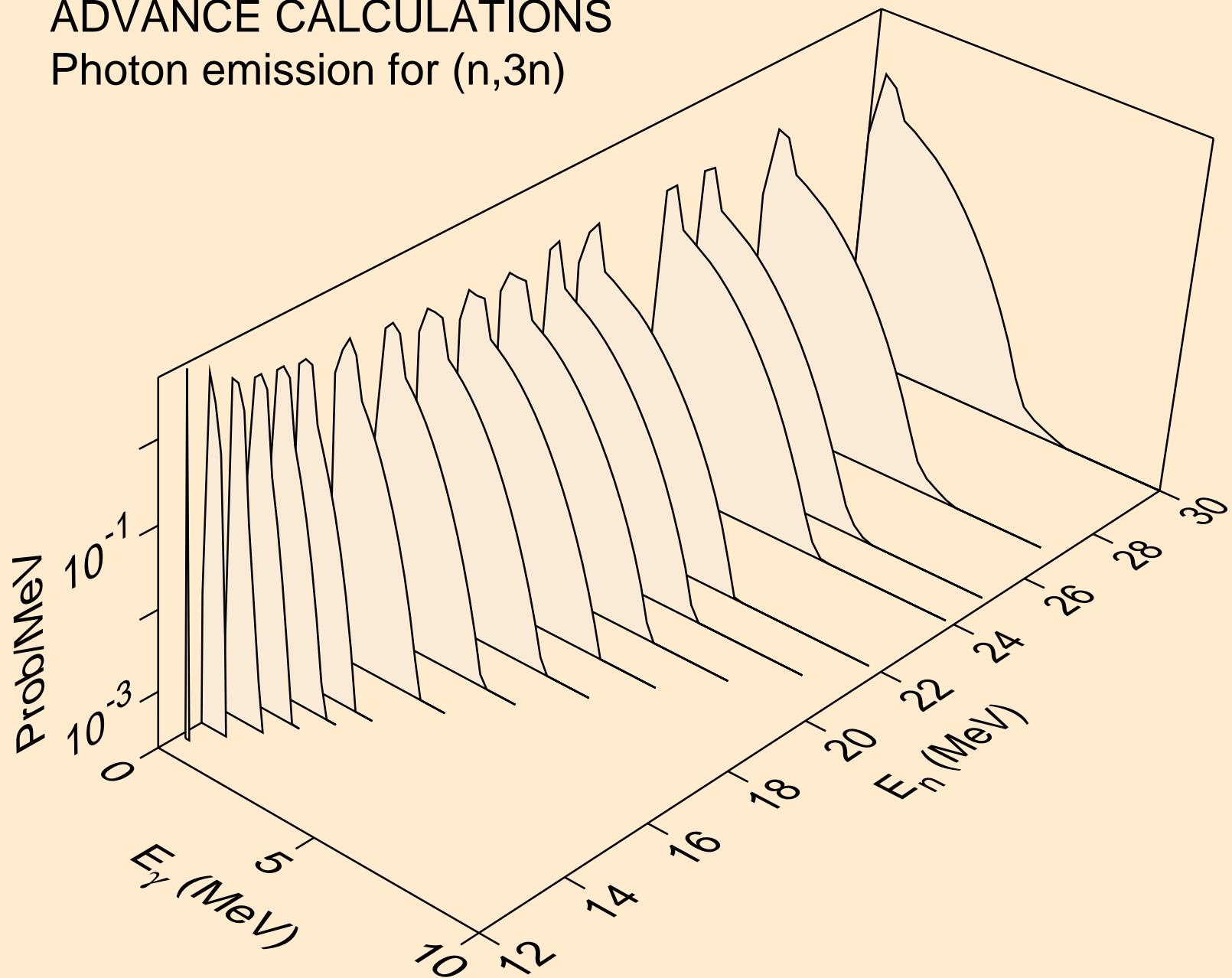
# ADVANCE CALCULATIONS

## Photon emission for (n,2n)



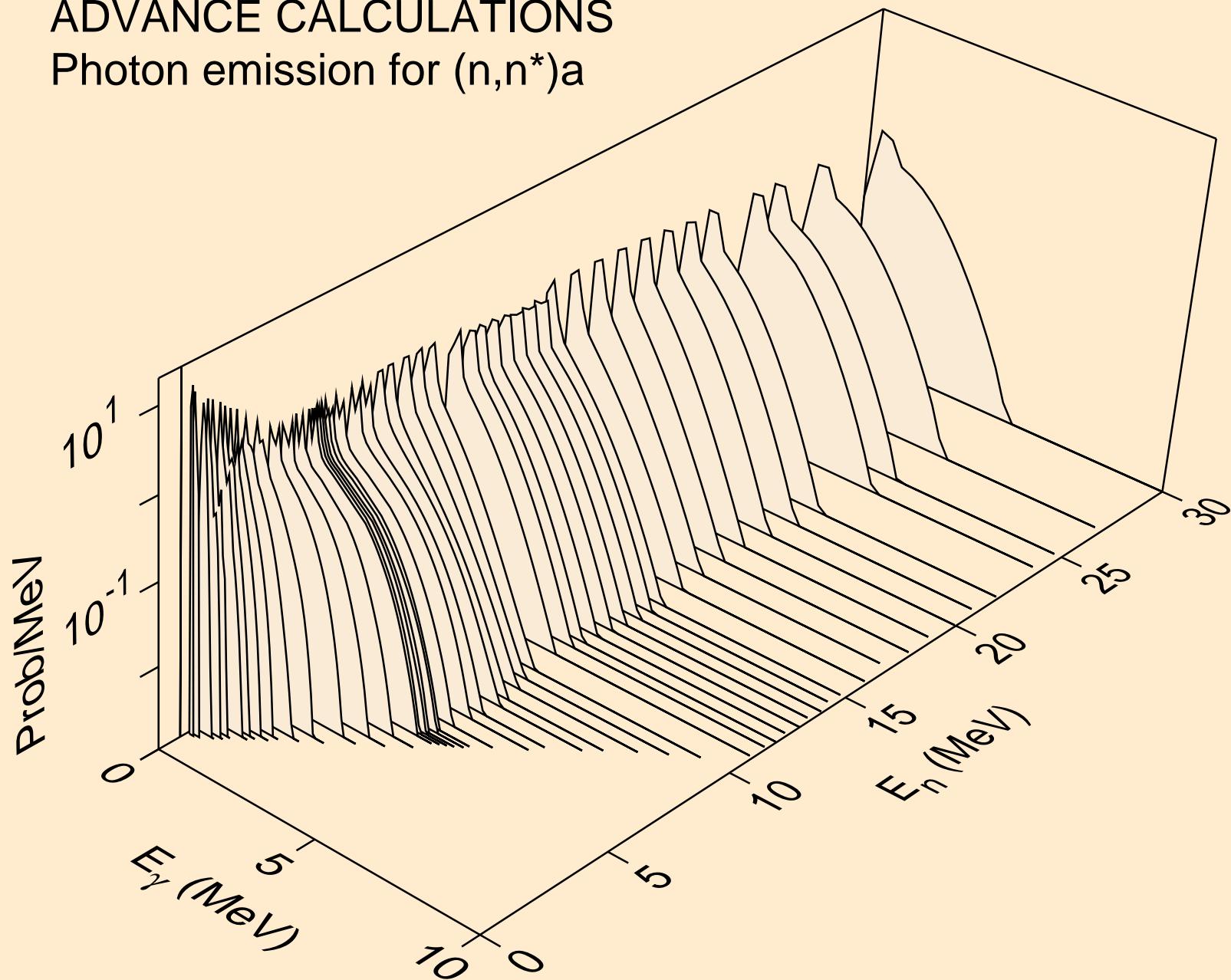
# ADVANCE CALCULATIONS

## Photon emission for (n,3n)



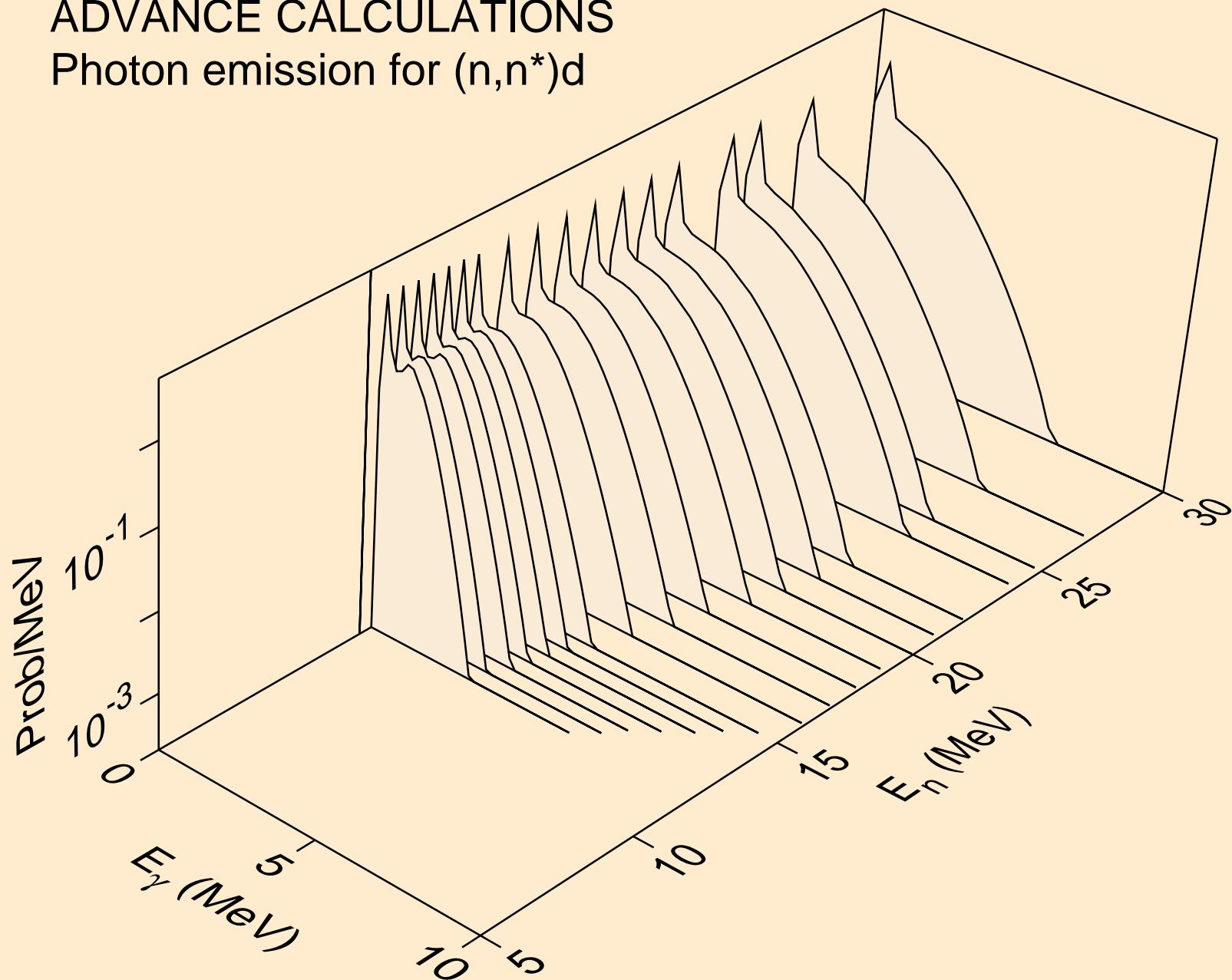
# ADVANCE CALCULATIONS

## Photon emission for $(n,n^*)a$



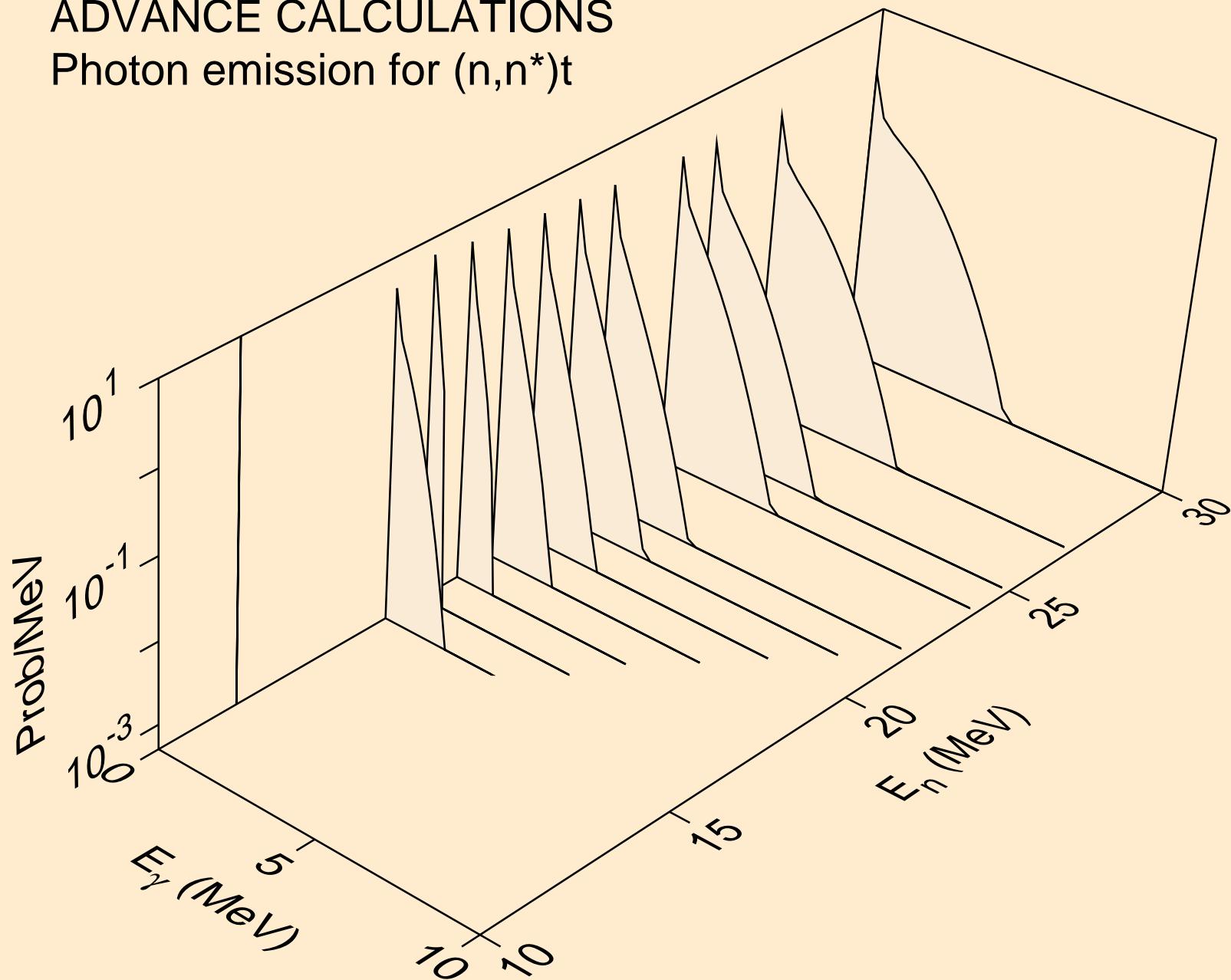
# ADVANCE CALCULATIONS

## Photon emission for $(n,n^*)d$



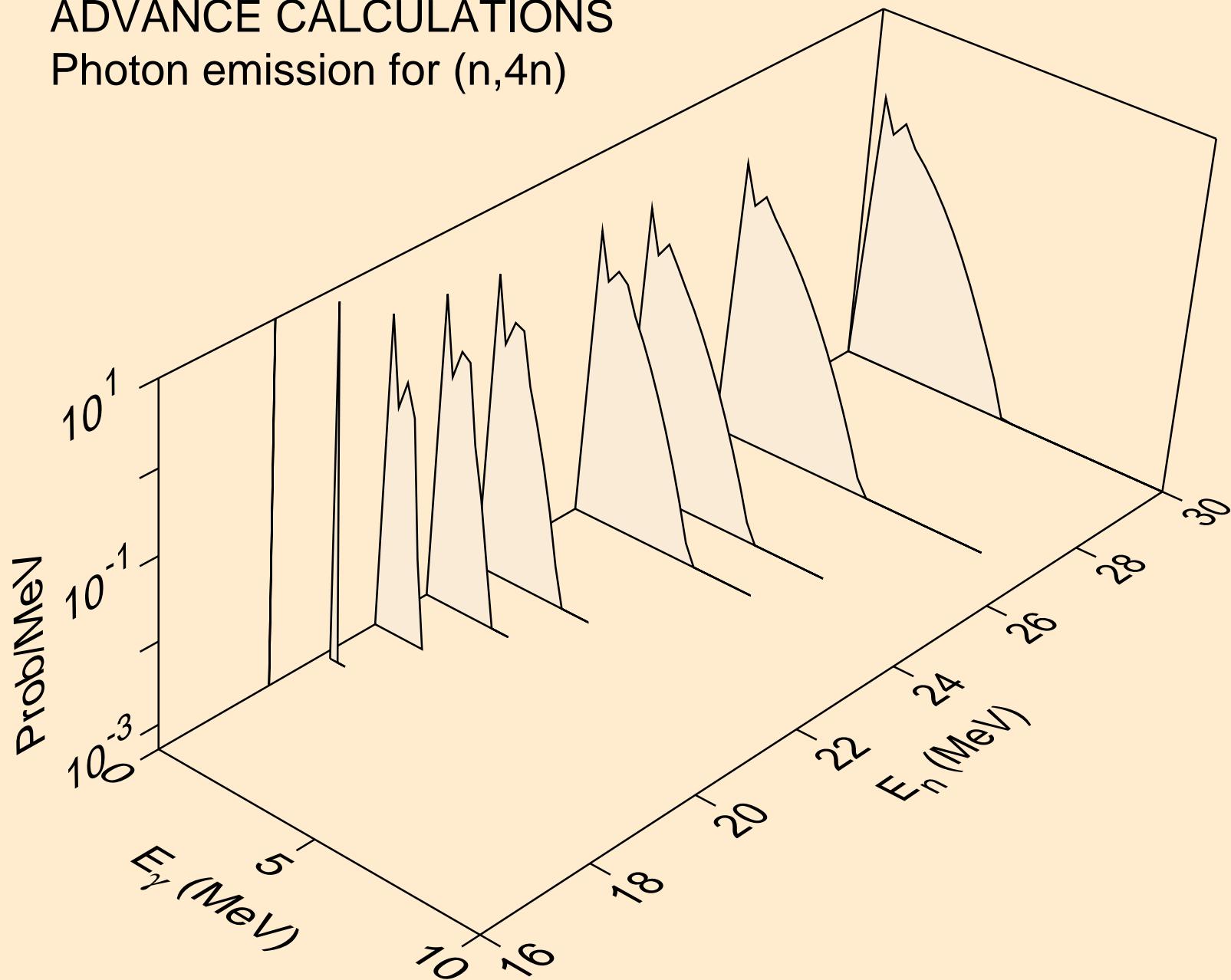
# ADVANCE CALCULATIONS

## Photon emission for $(n,n^*)t$



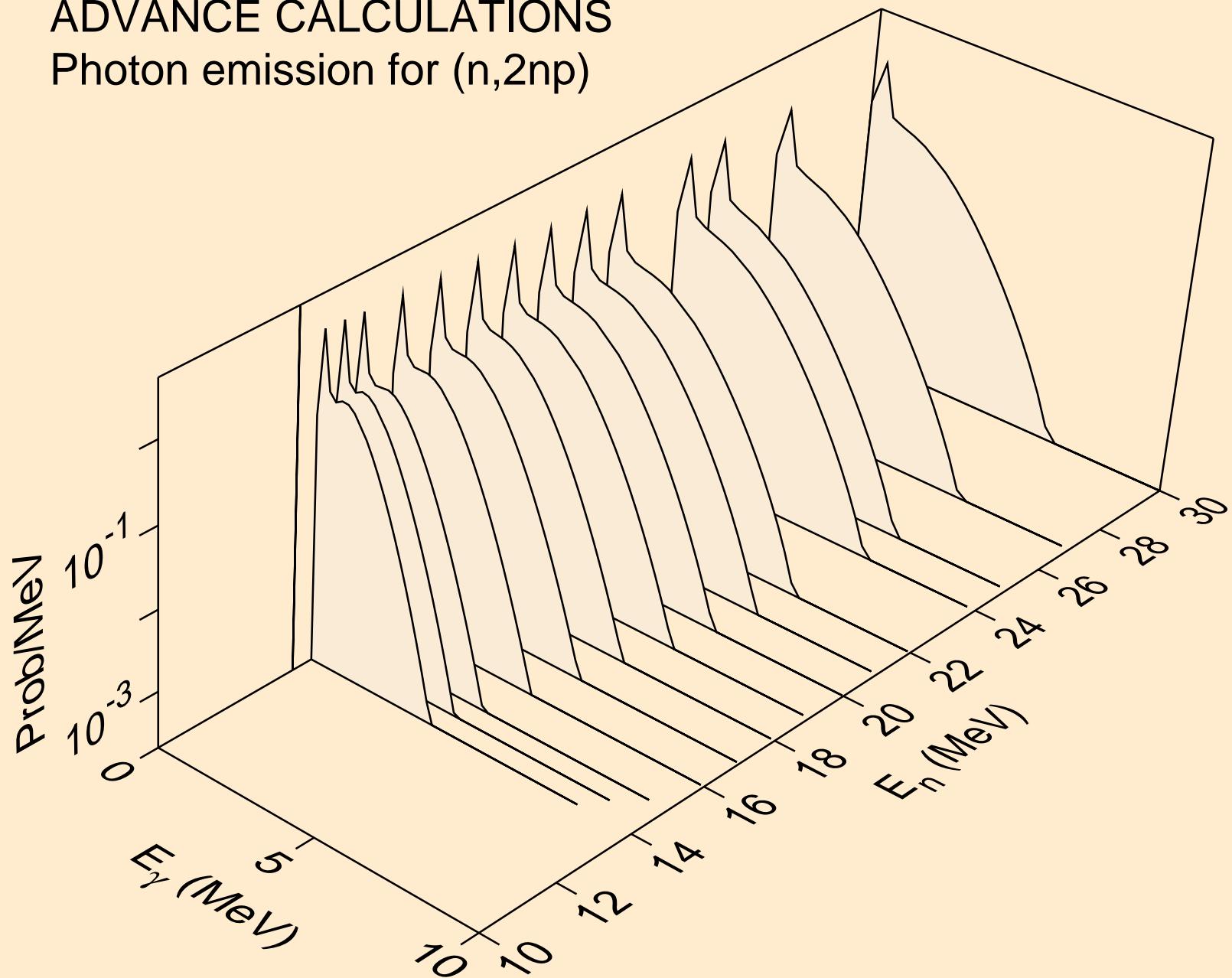
# ADVANCE CALCULATIONS

## Photon emission for (n,4n)



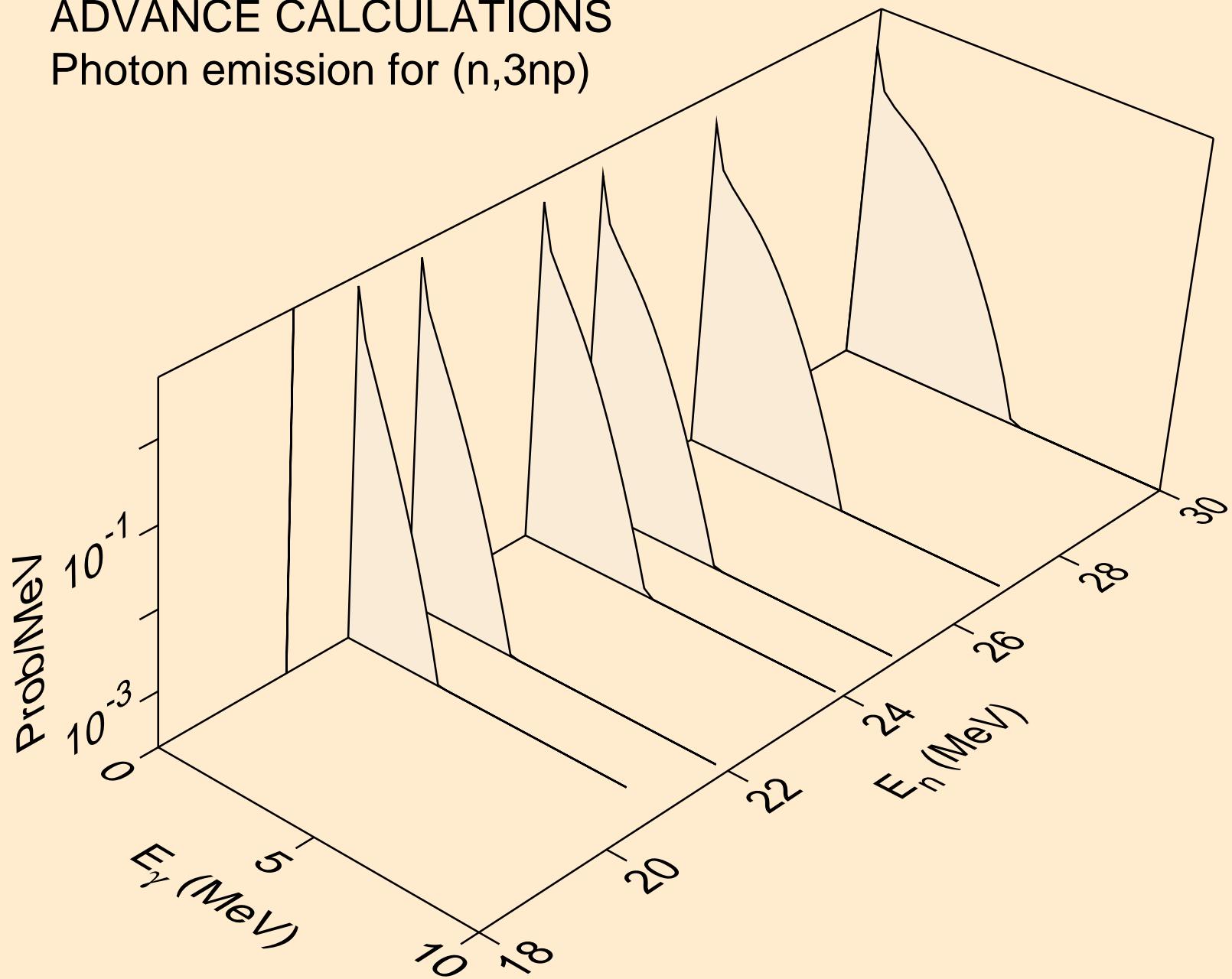
# ADVANCE CALCULATIONS

## Photon emission for (n,2np)



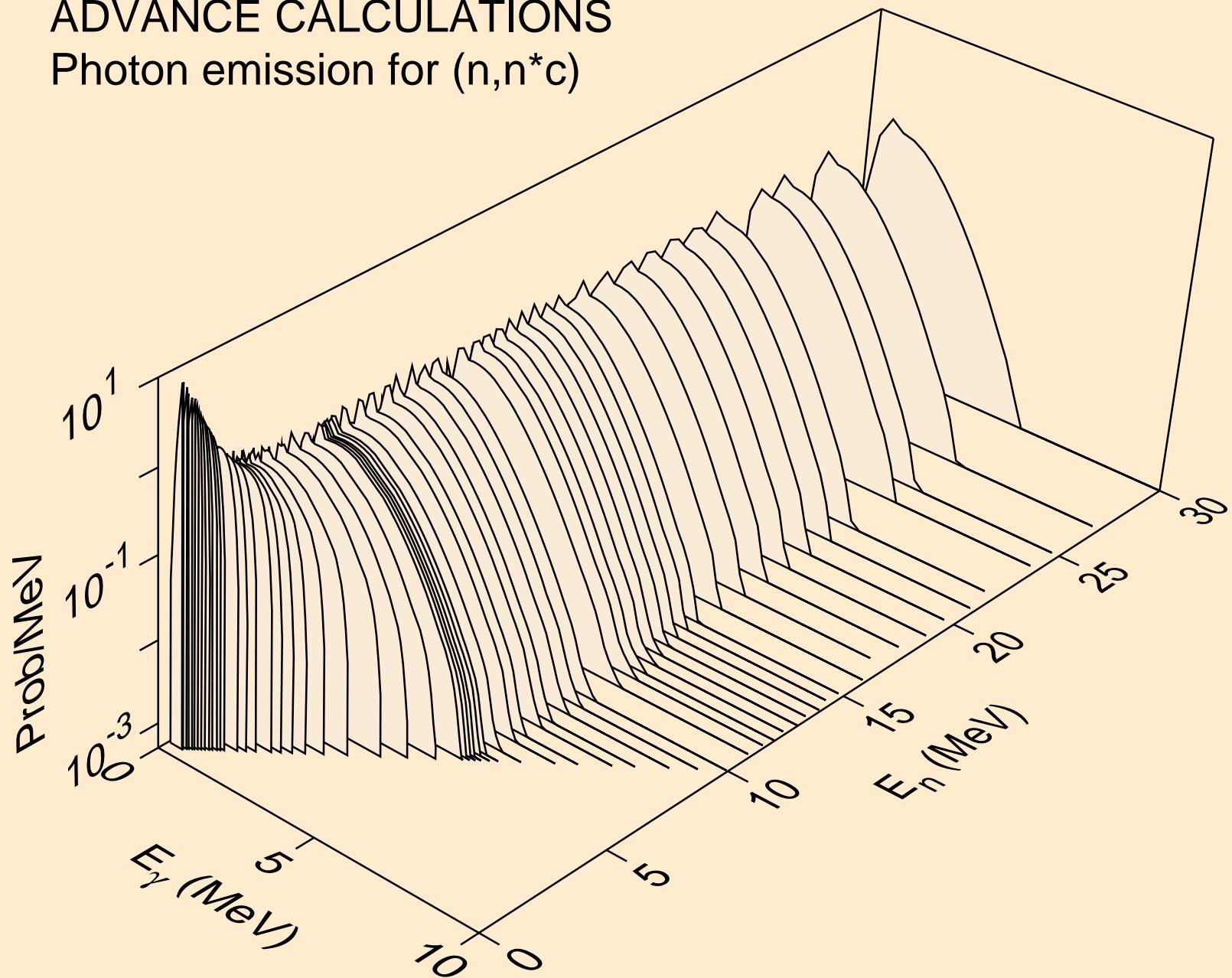
# ADVANCE CALCULATIONS

## Photon emission for (n,3np)



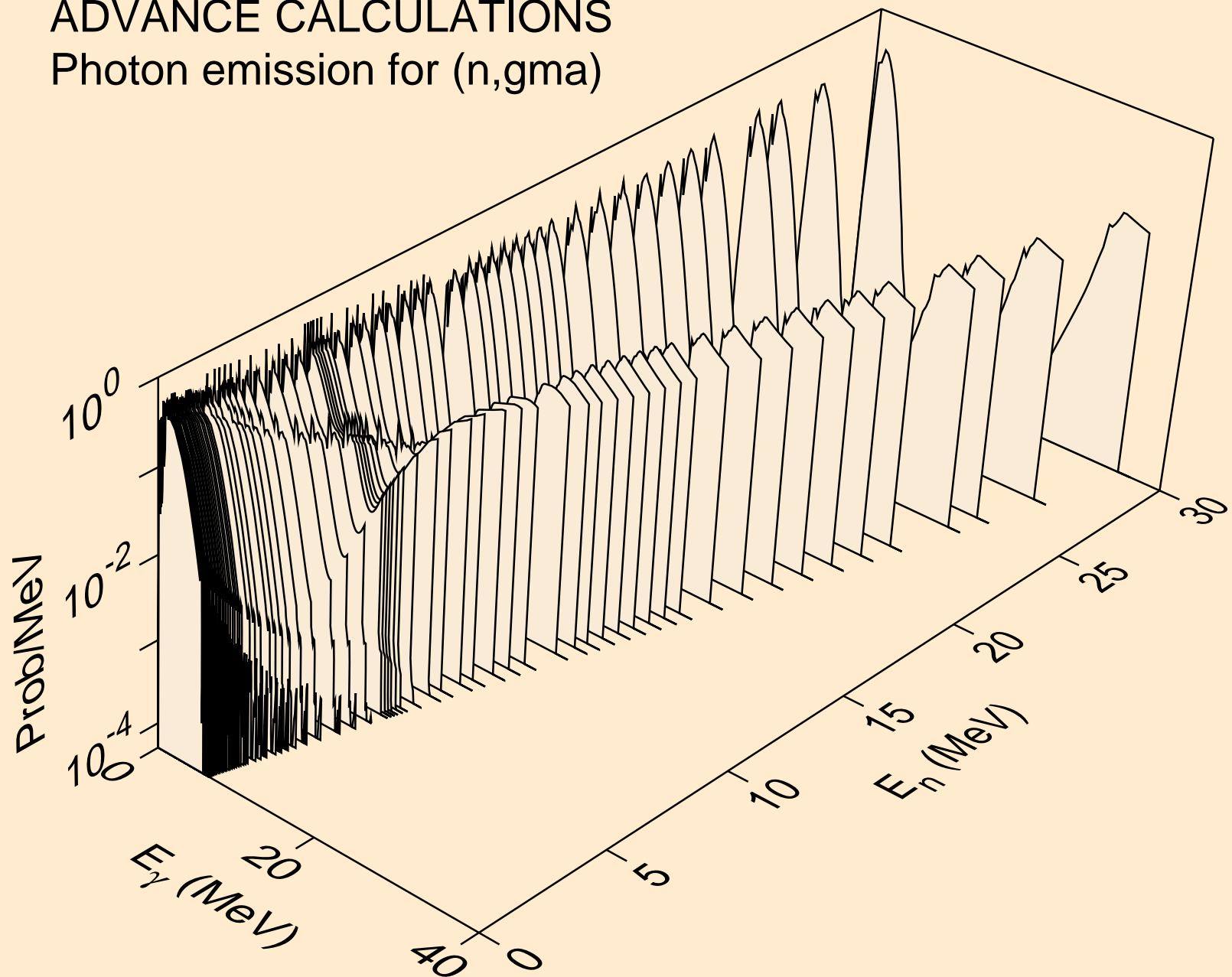
# ADVANCE CALCULATIONS

## Photon emission for $(n,n^*c)$



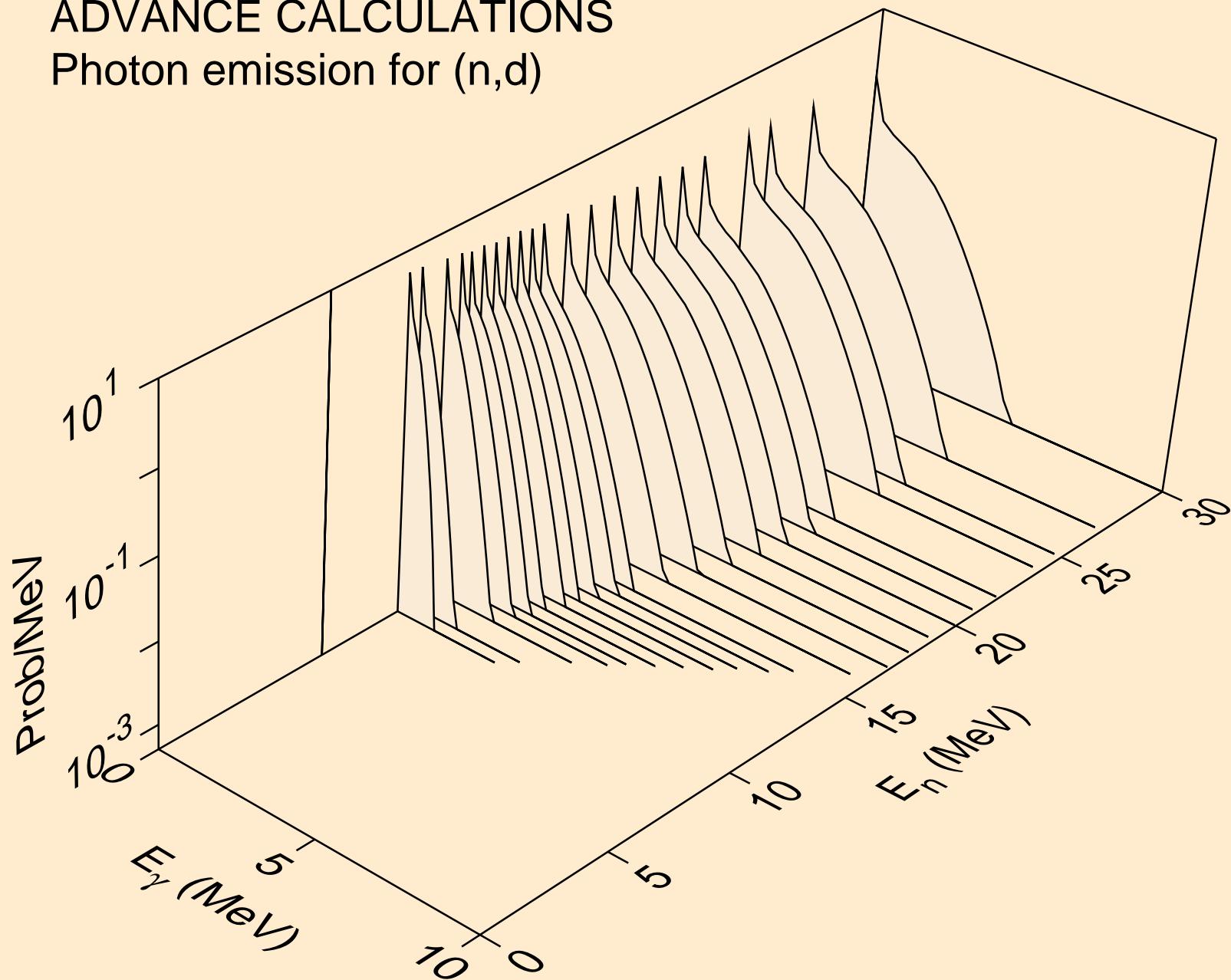
# ADVANCE CALCULATIONS

## Photon emission for (n,gma)



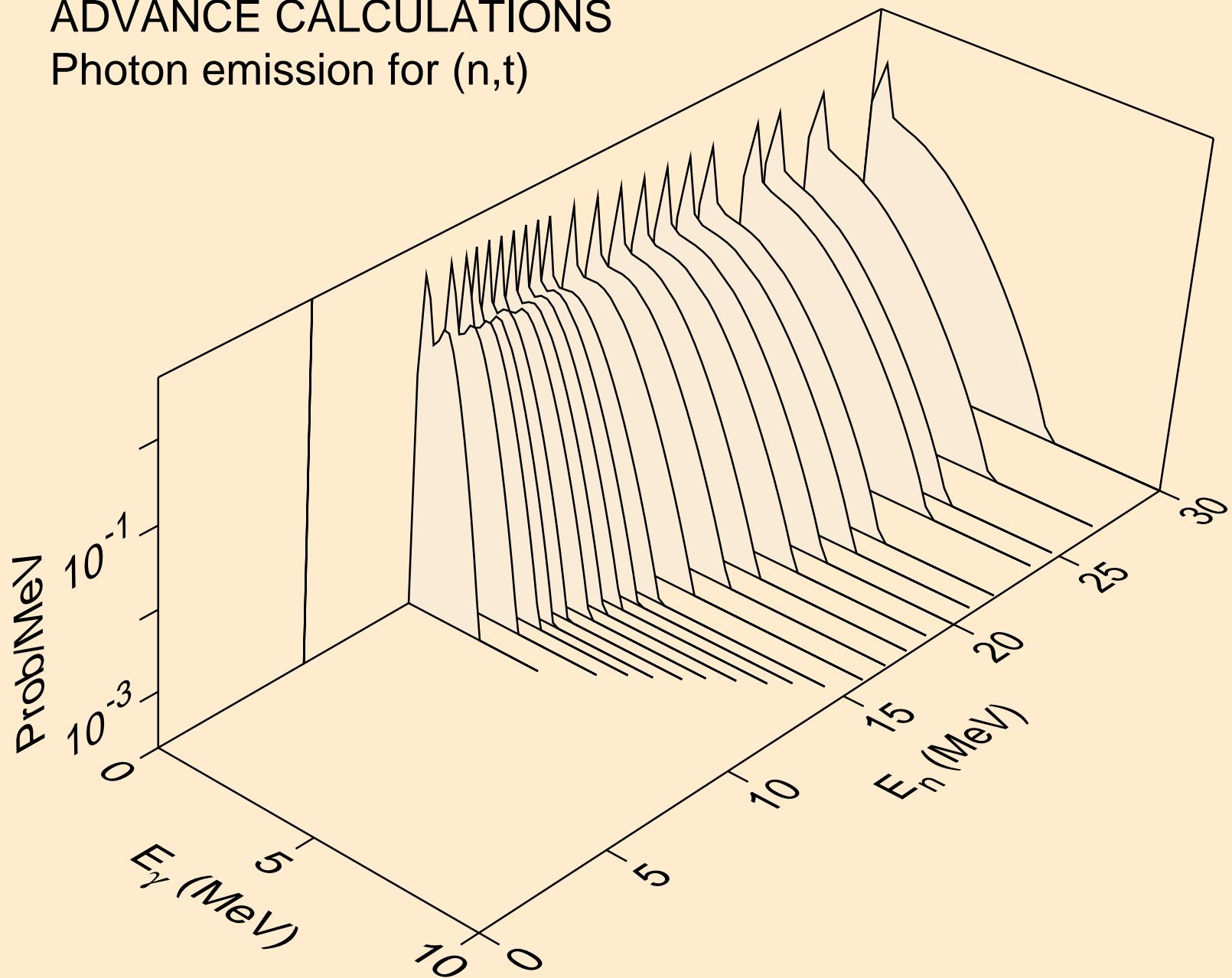
# ADVANCE CALCULATIONS

## Photon emission for (n,d)



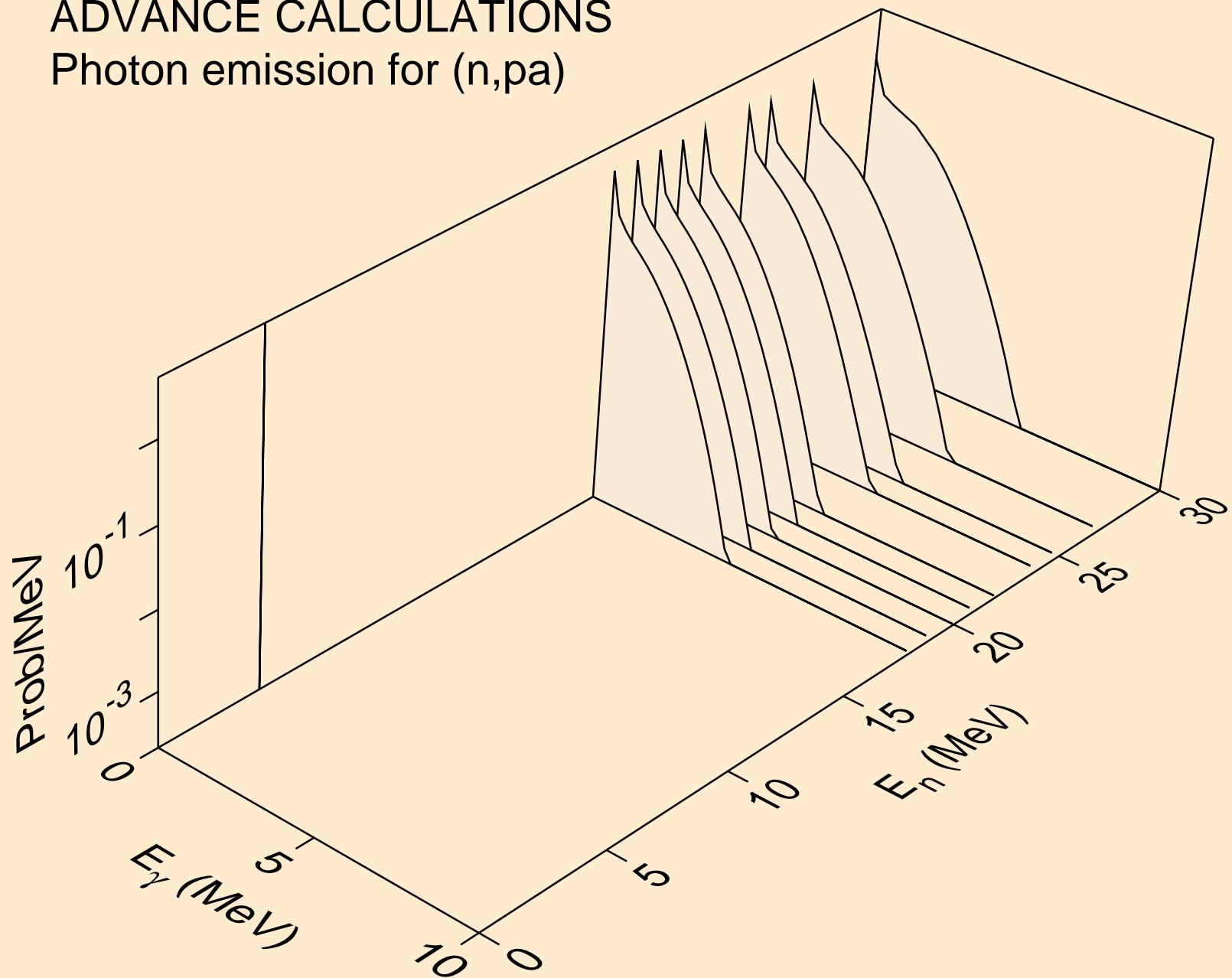
# ADVANCE CALCULATIONS

## Photon emission for (n,t)



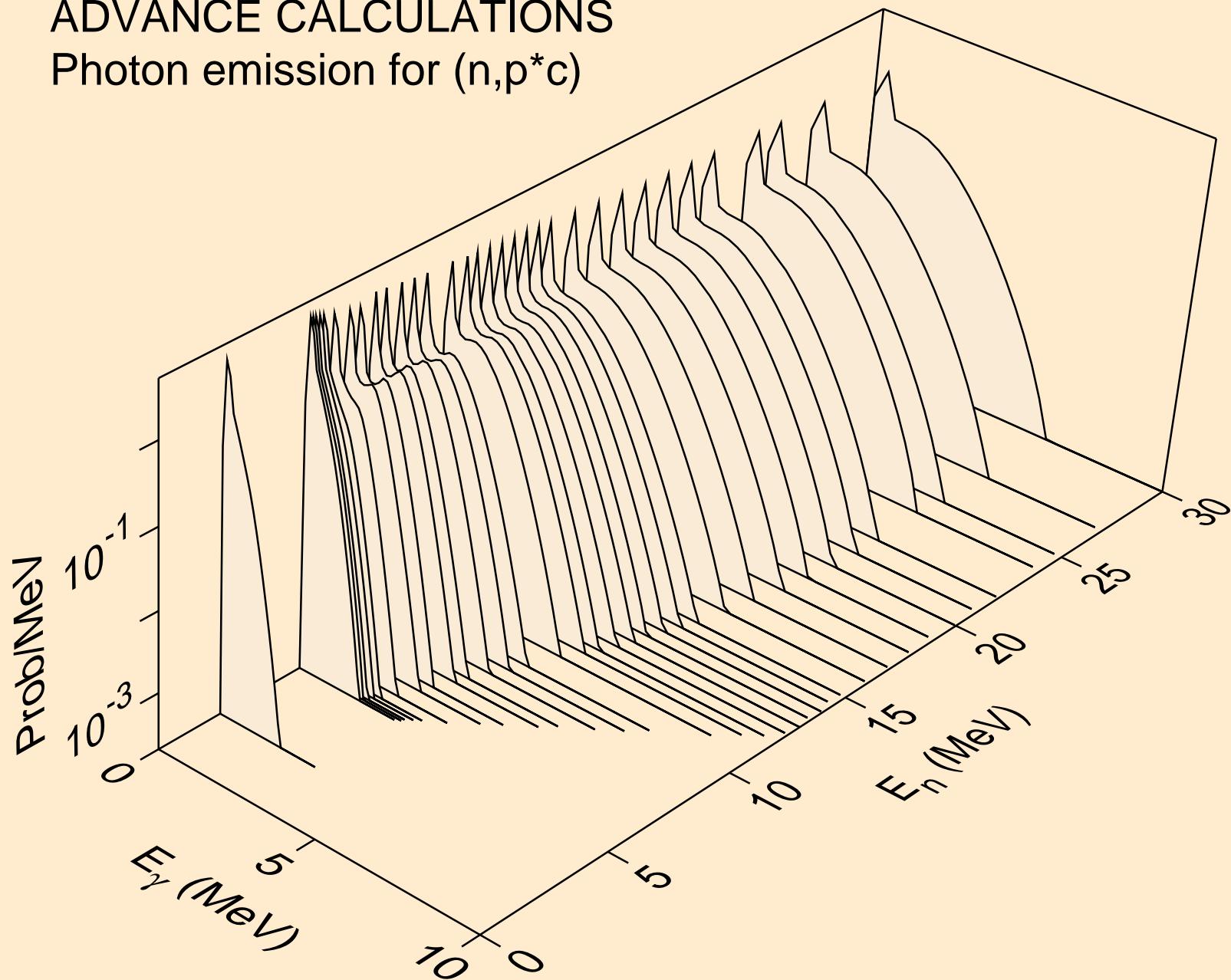
# ADVANCE CALCULATIONS

## Photon emission for (n,pa)



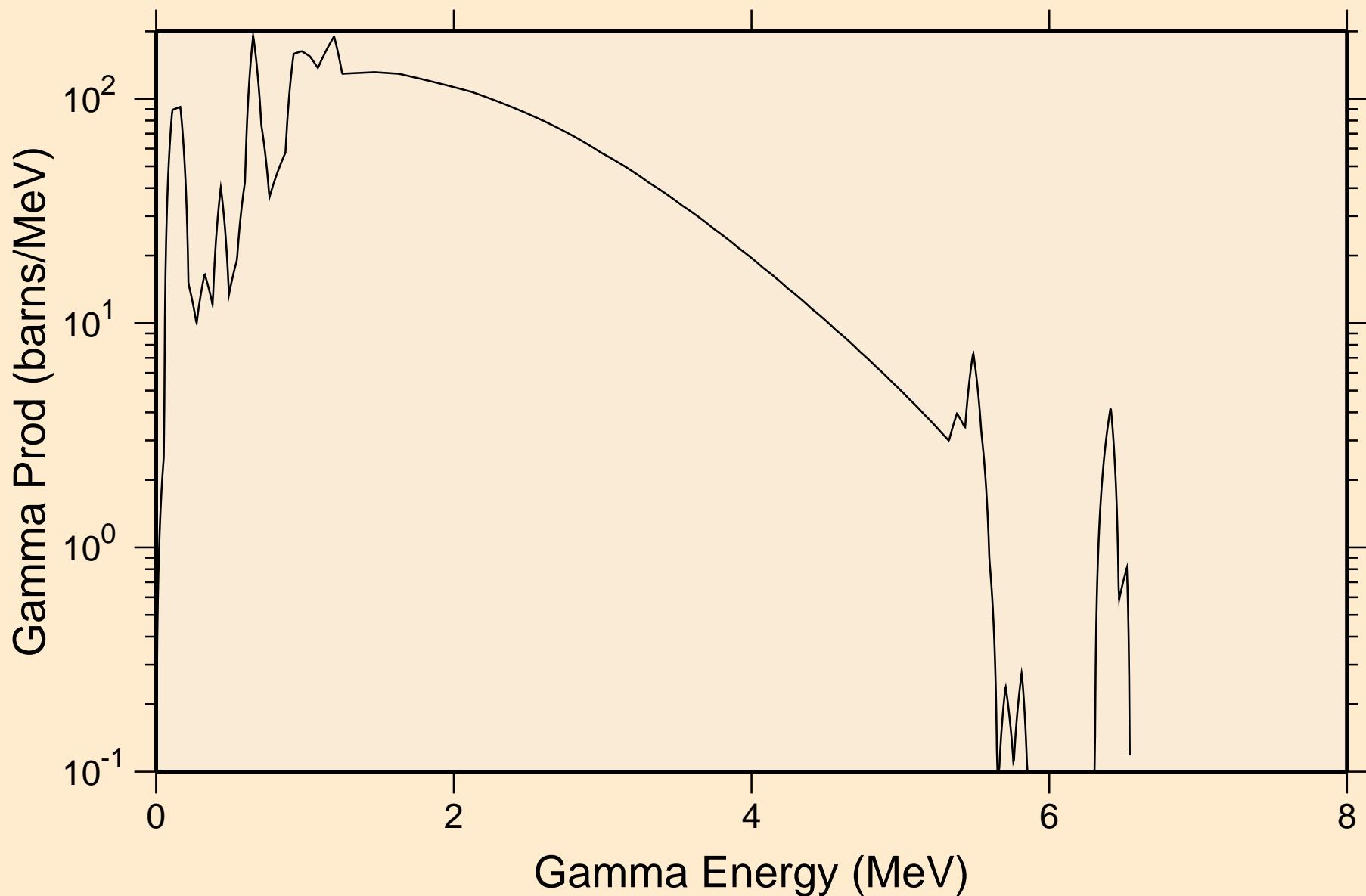
# ADVANCE CALCULATIONS

## Photon emission for $(n, p^* c)$

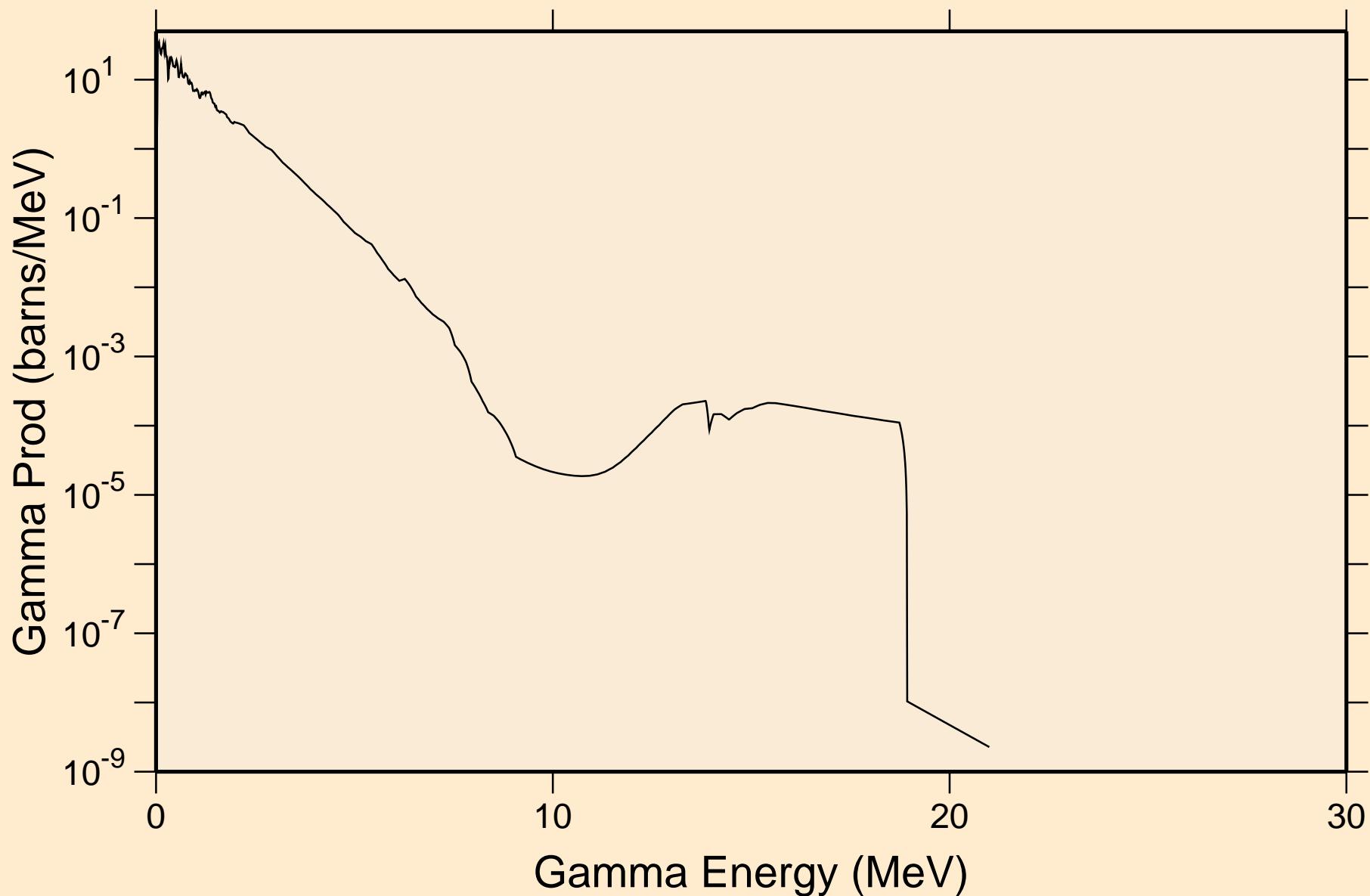


# ADVANCE CALCULATIONS

## thermal capture photon spectrum

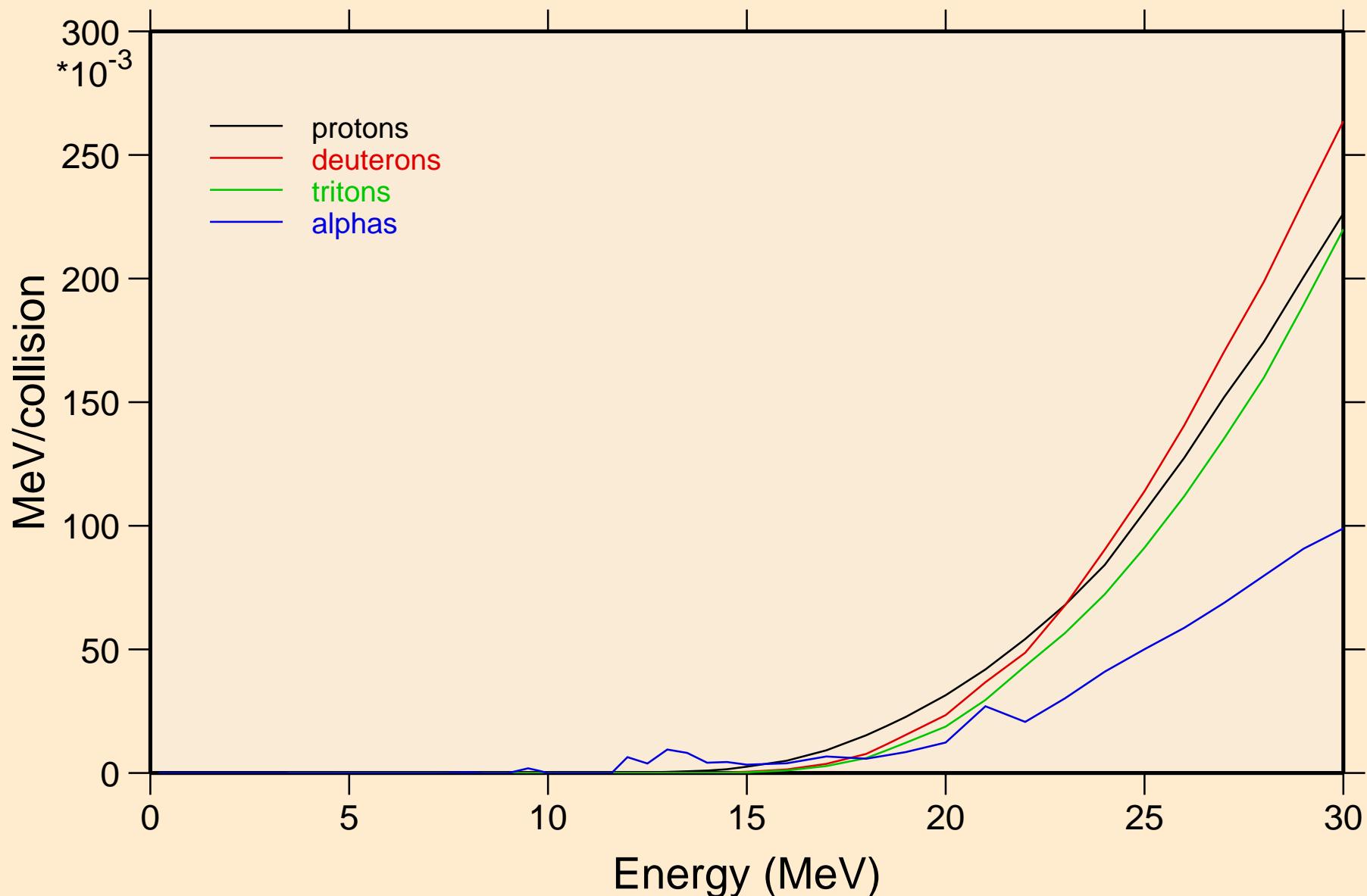


ADVANCE CALCULATIONS  
14 MeV photon spectrum



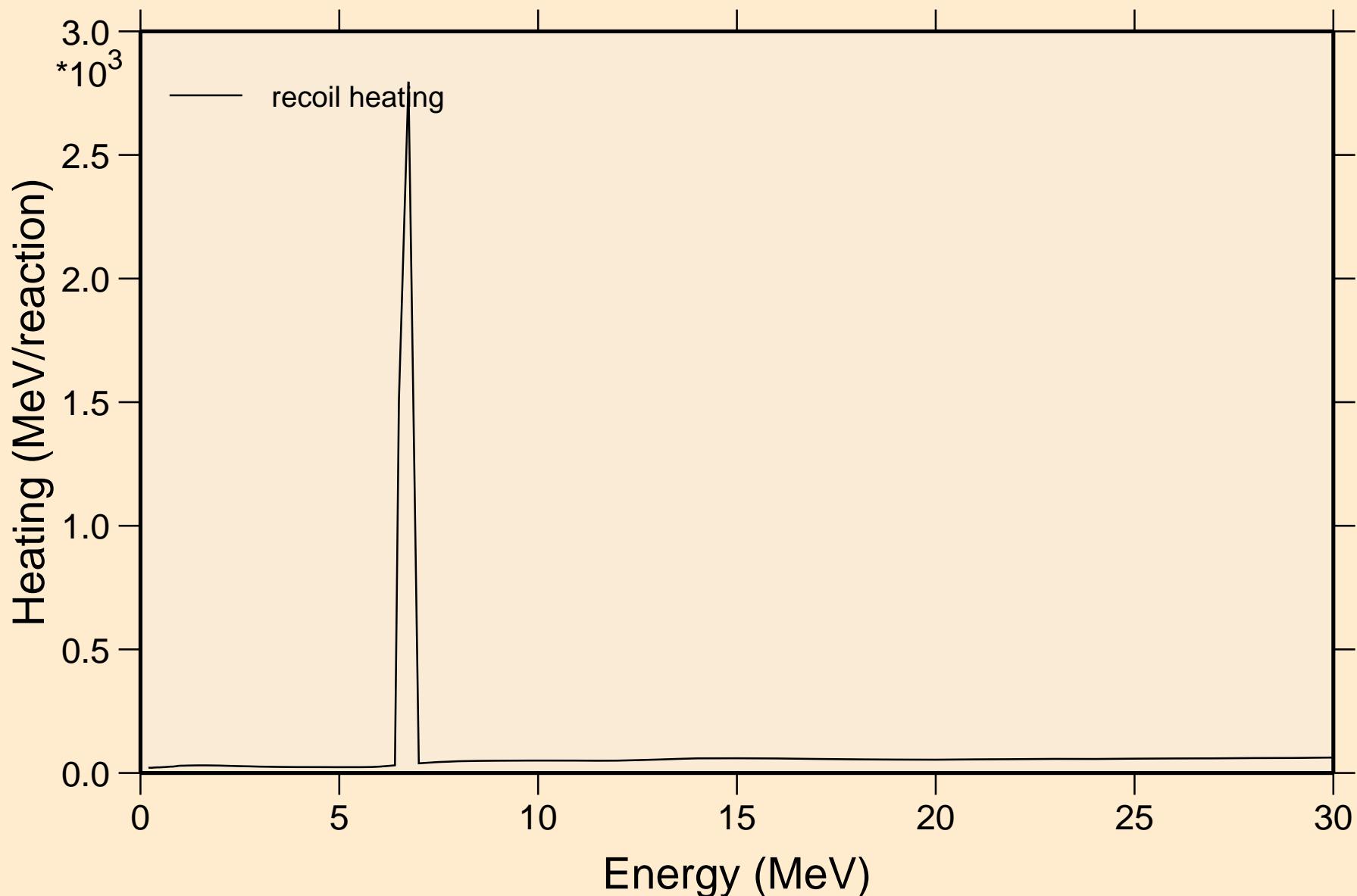
# ADVANCE CALCULATIONS

## Particle heating contributions



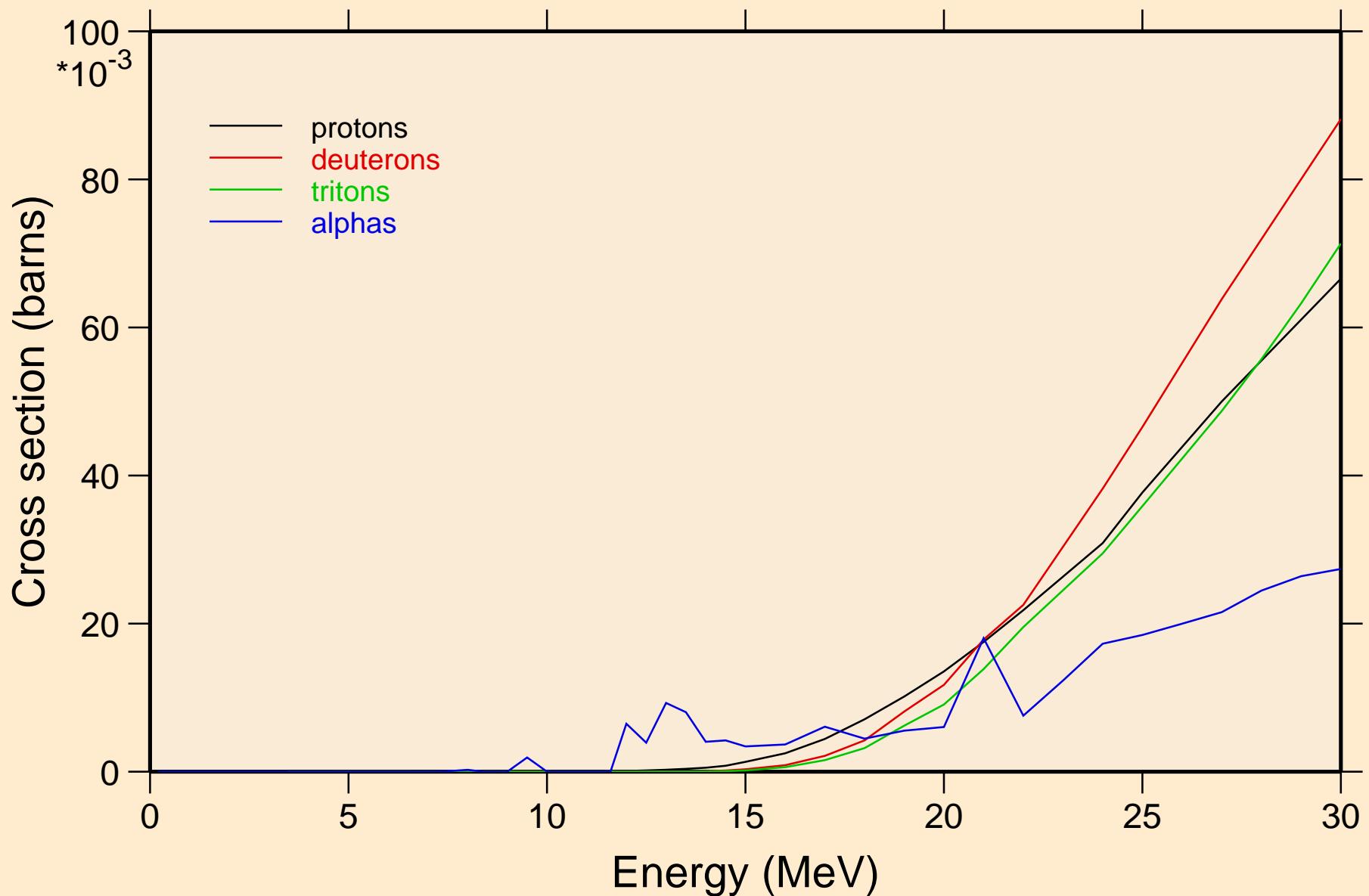
# ADVANCE CALCULATIONS

## Recoil Heating



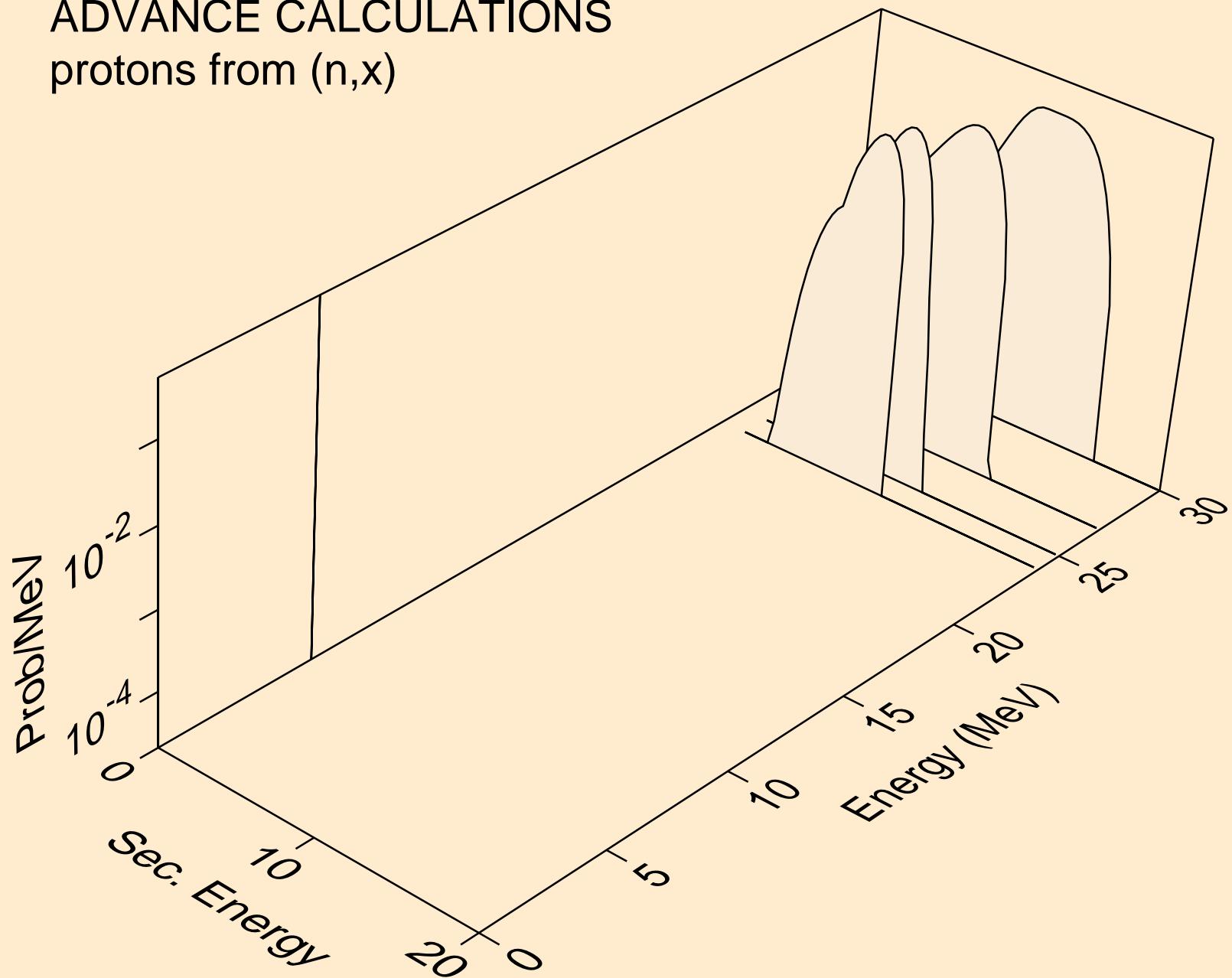
# ADVANCE CALCULATIONS

## Particle production cross sections



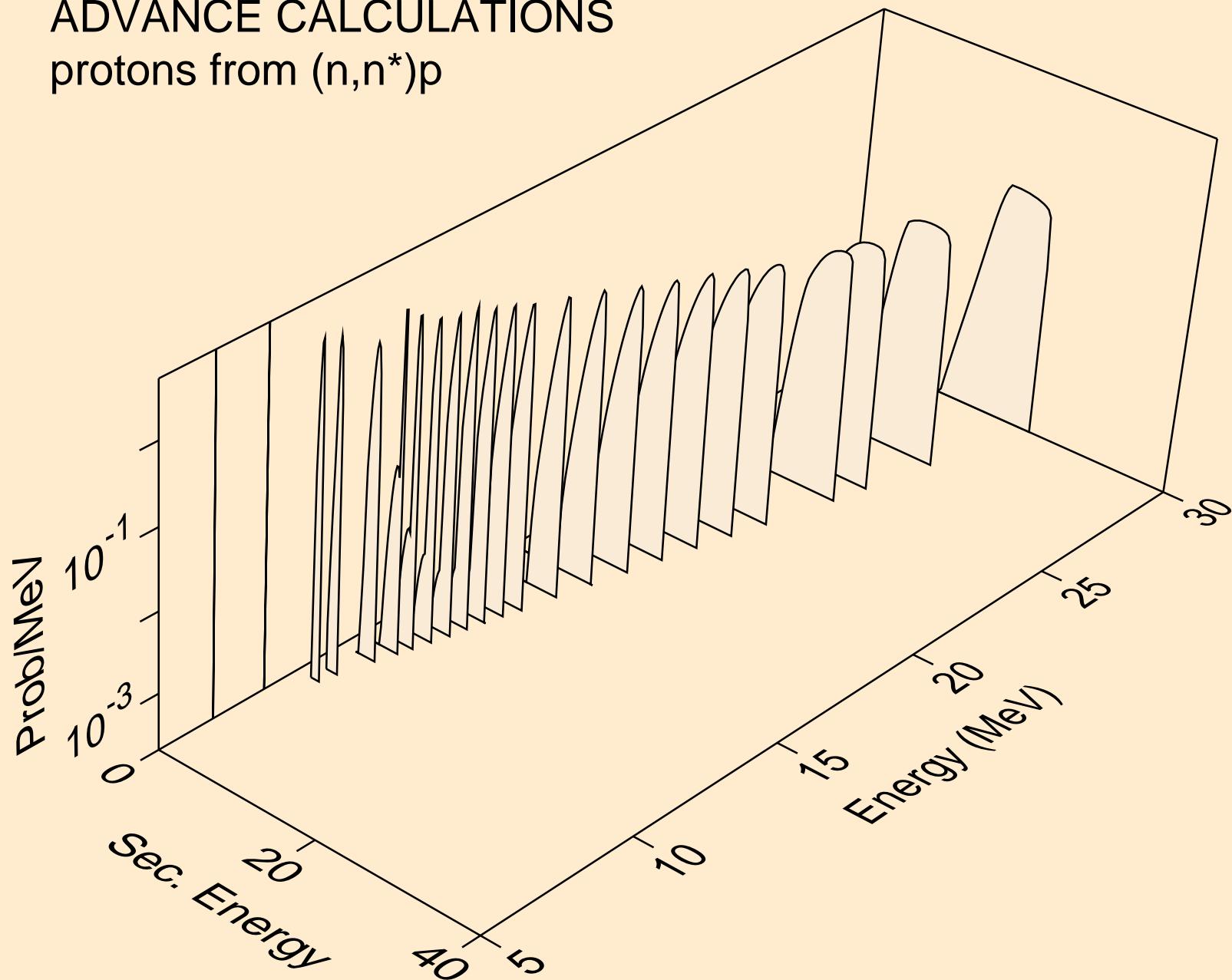
# ADVANCE CALCULATIONS

protons from (n,x)



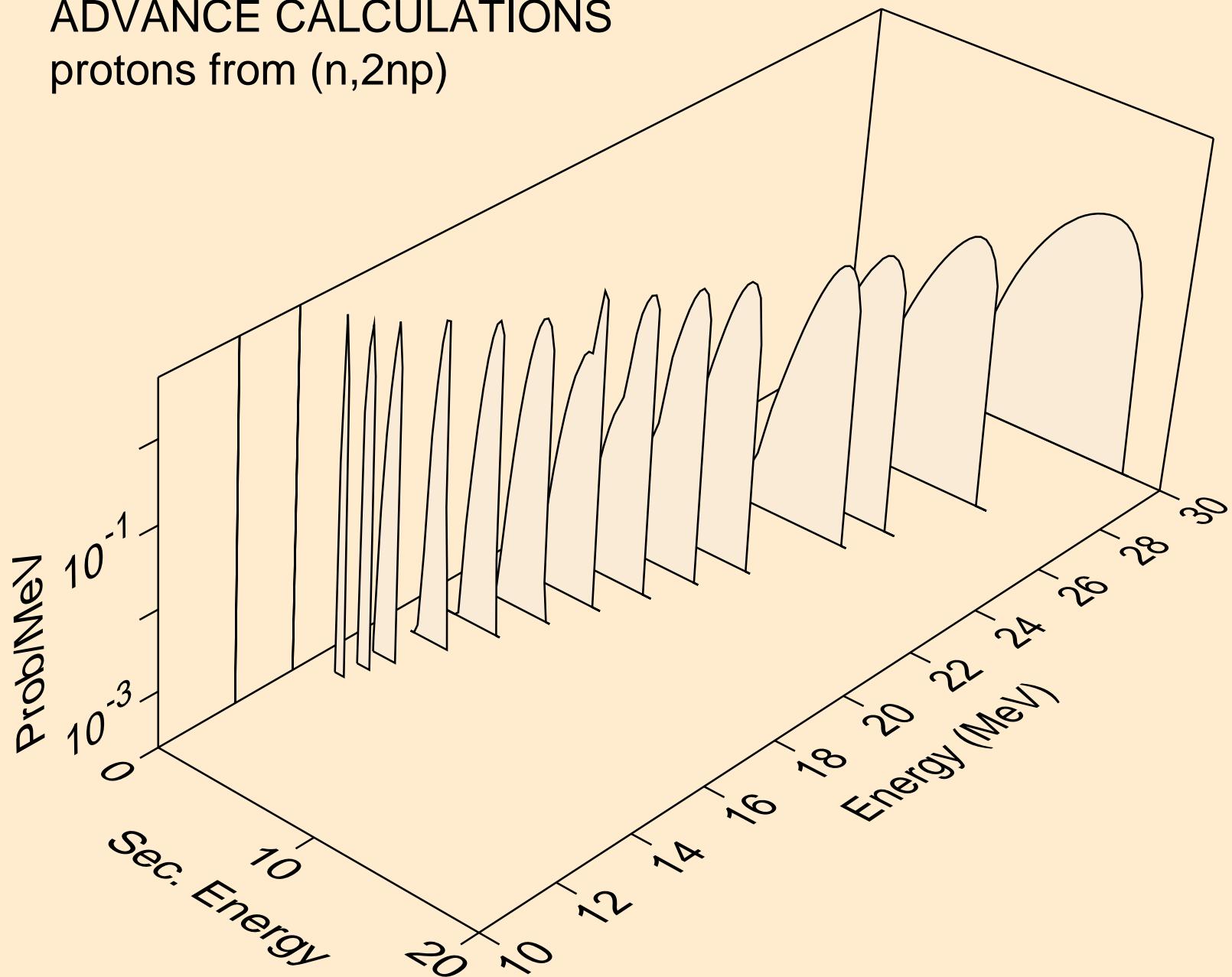
# ADVANCE CALCULATIONS

protons from  $(n,n^*)p$



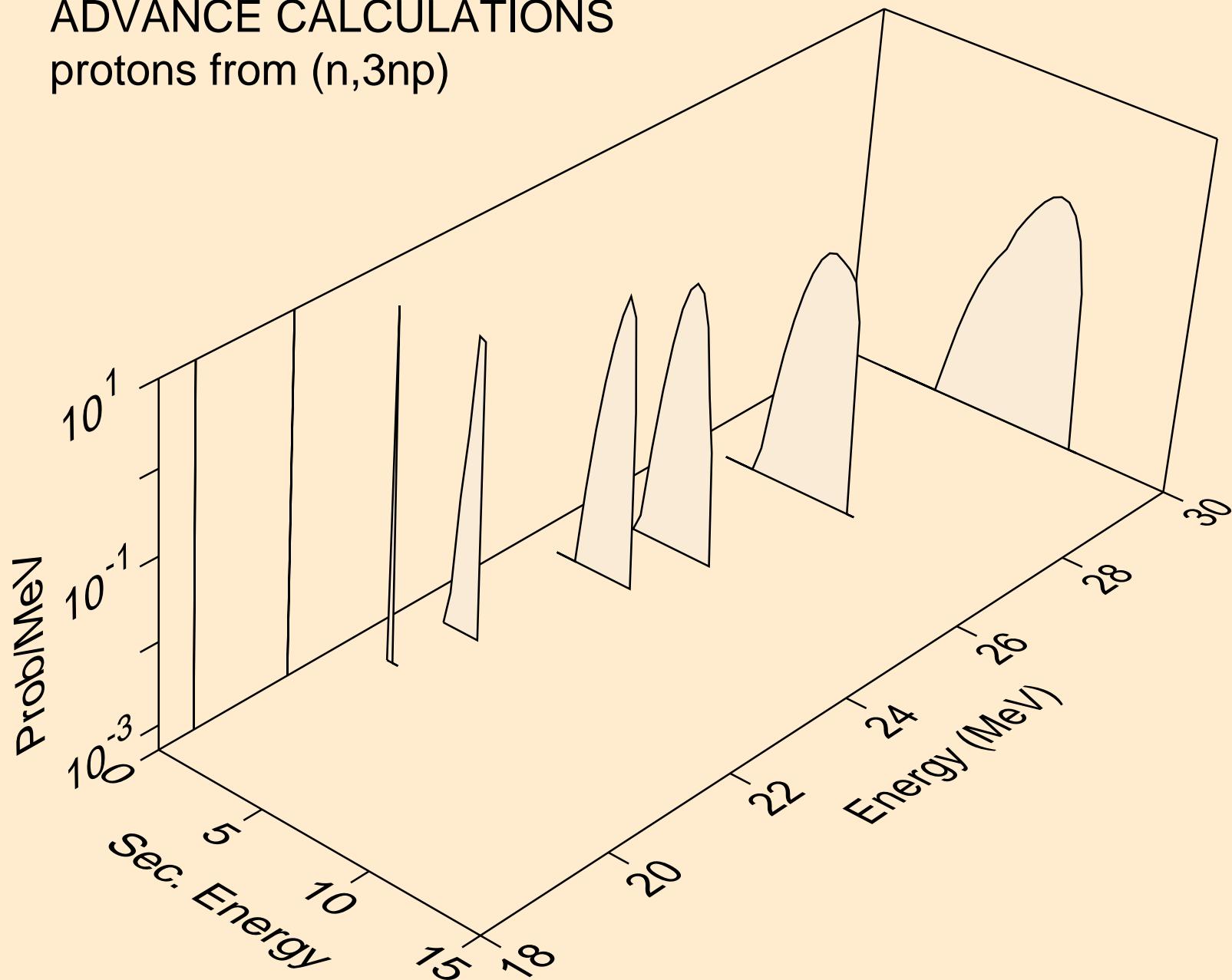
# ADVANCE CALCULATIONS

protons from ( $n,2np$ )



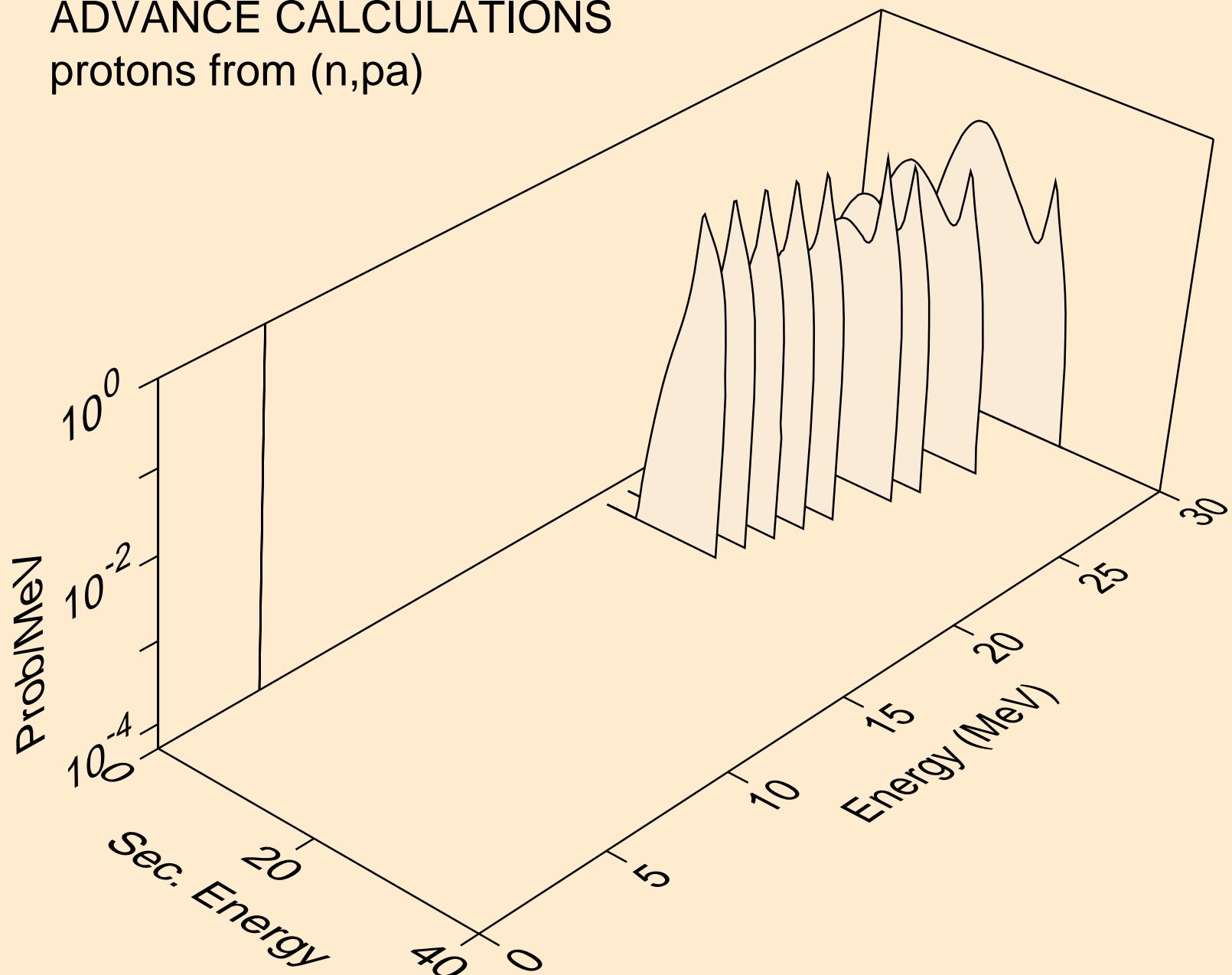
# ADVANCE CALCULATIONS

protons from (n,3np)



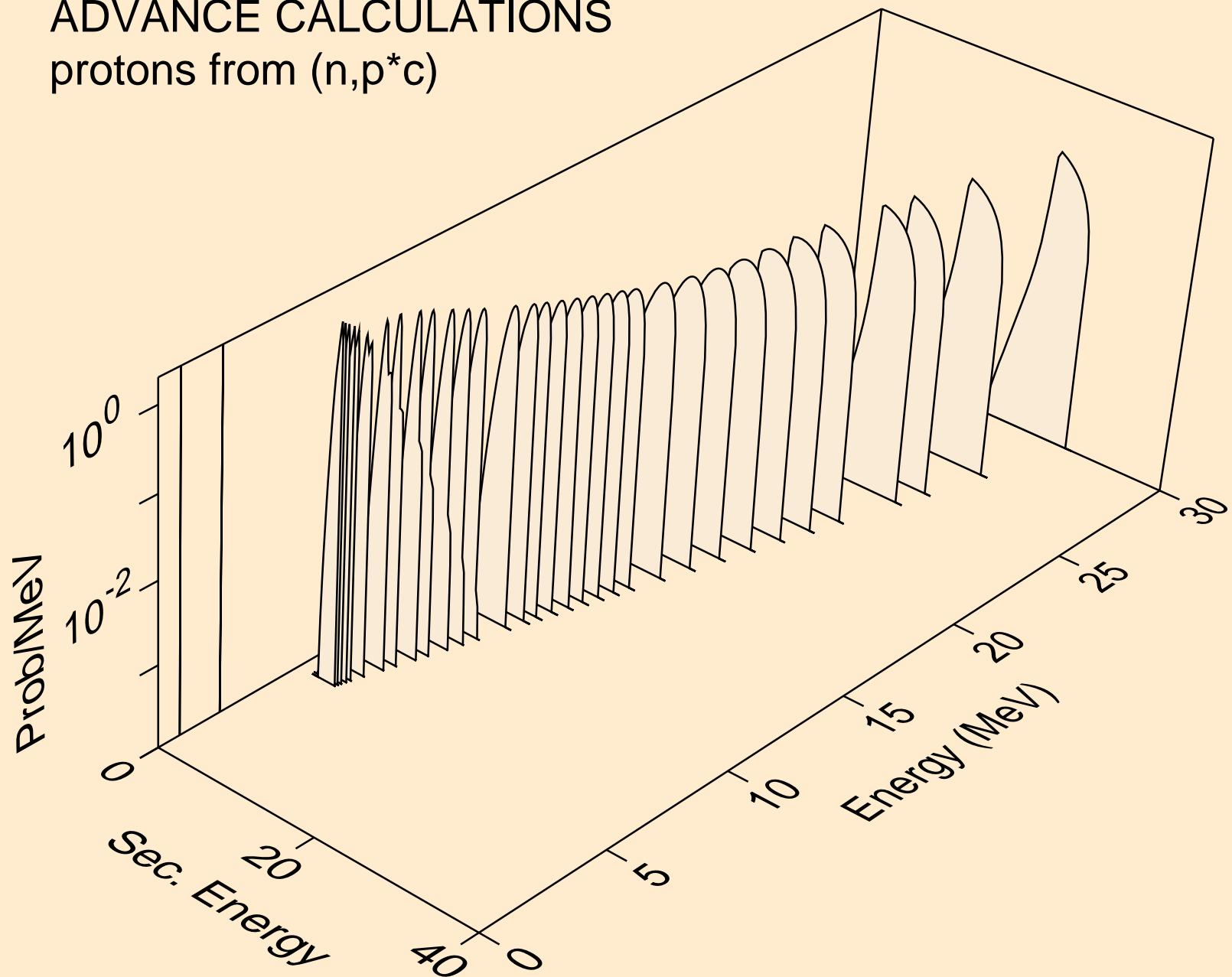
# ADVANCE CALCULATIONS

protons from (n,pa)



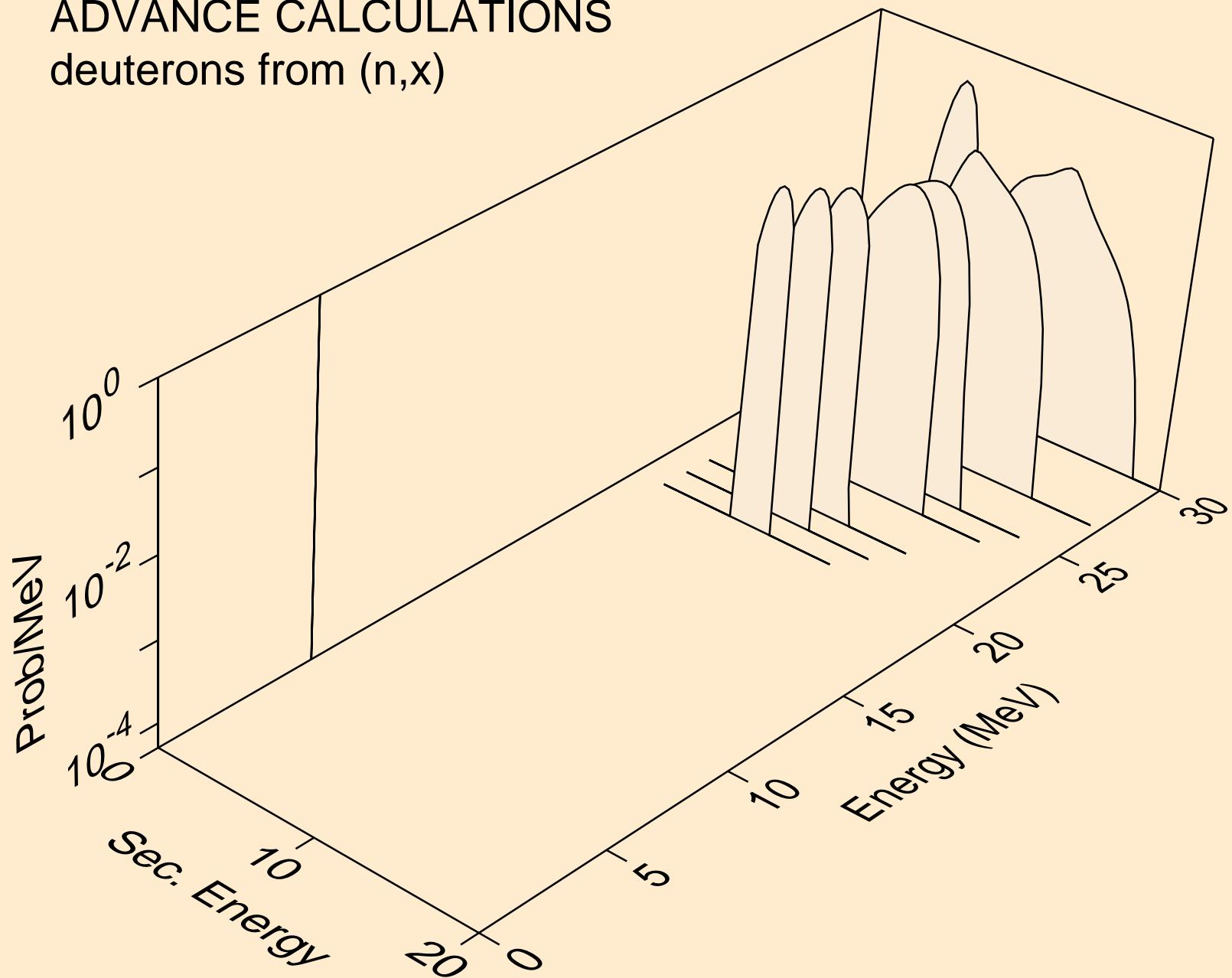
# ADVANCE CALCULATIONS

protons from  $(n,p^*c)$



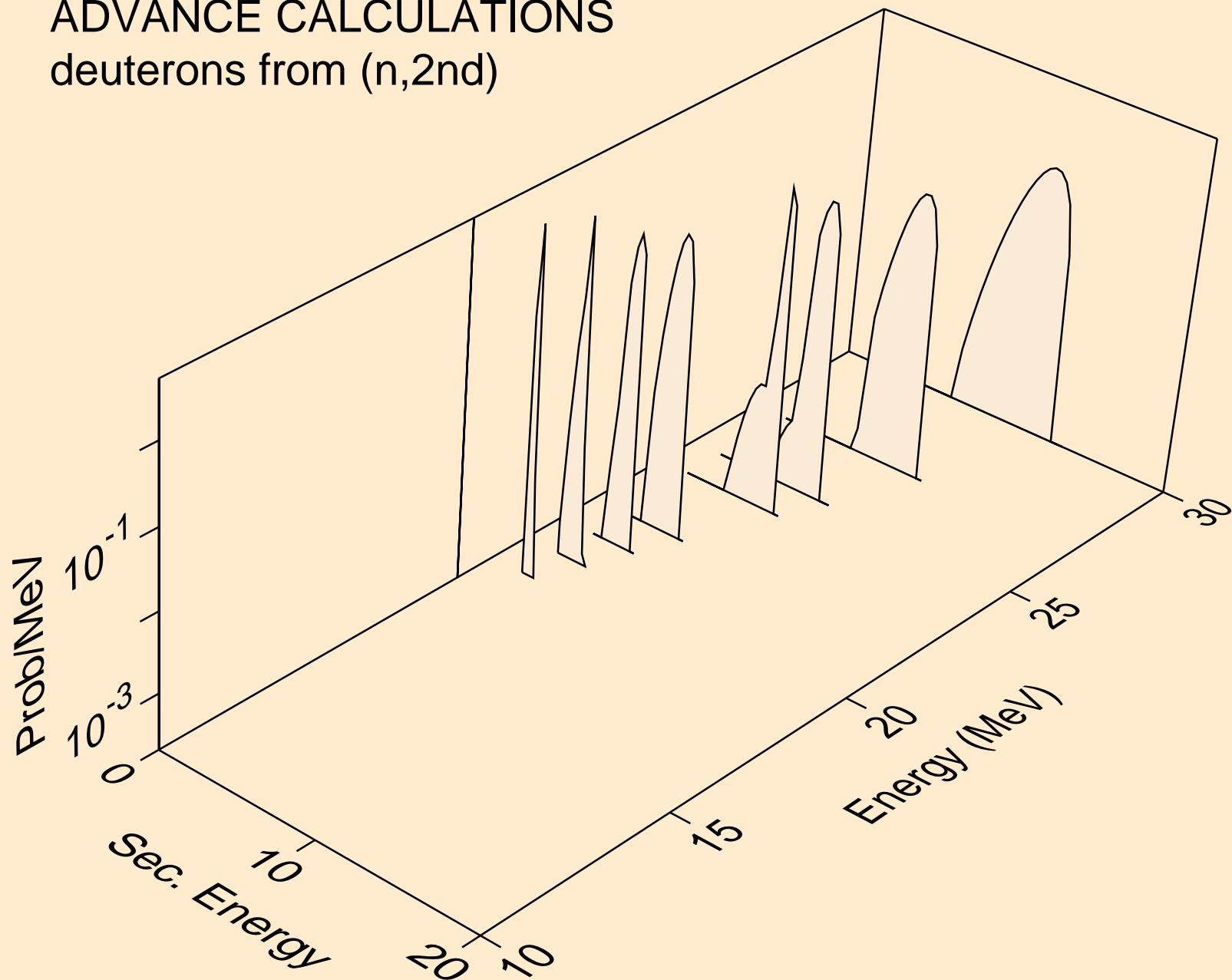
# ADVANCE CALCULATIONS

## deuterons from (n,x)



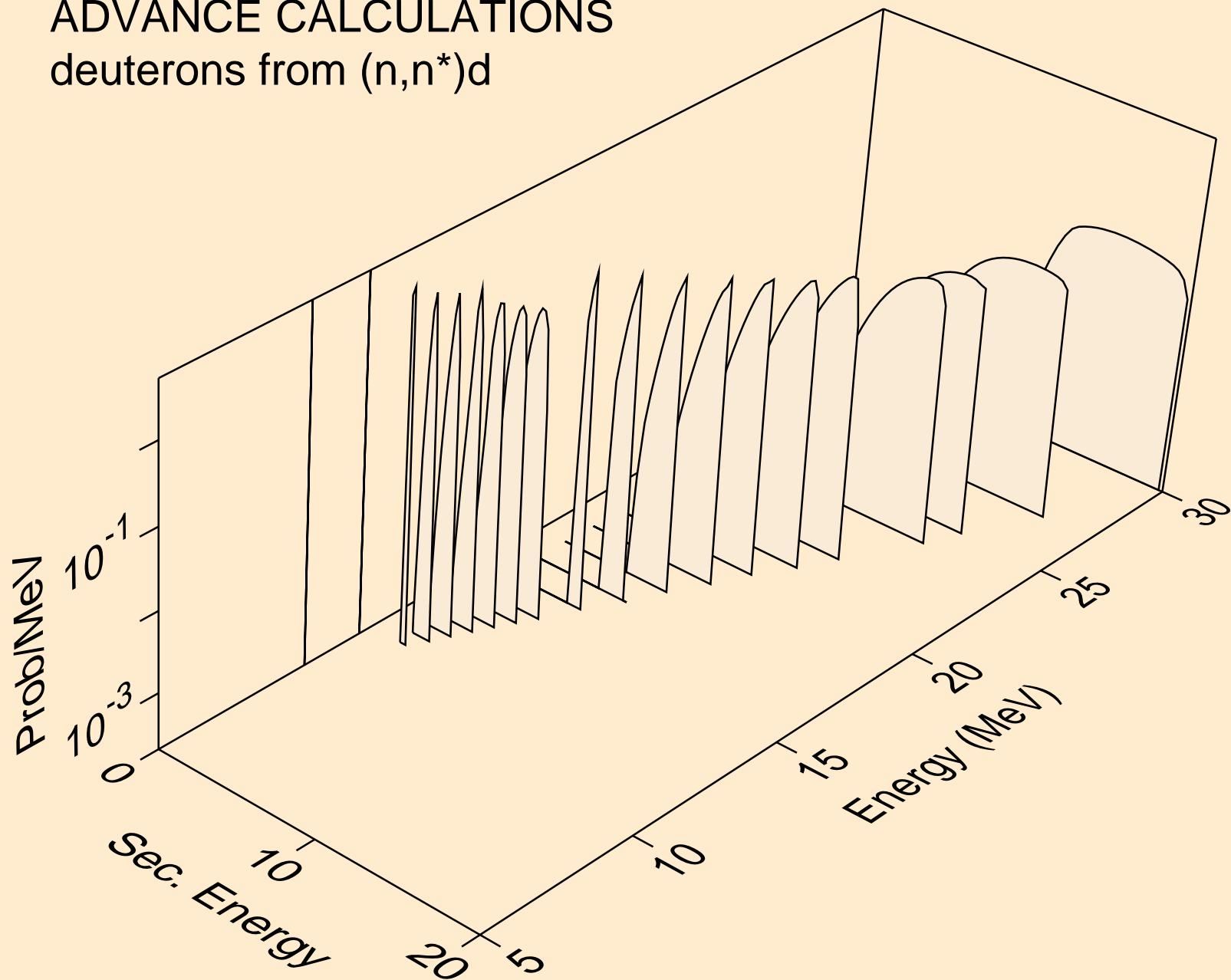
# ADVANCE CALCULATIONS

## deuterons from ( $n, 2nd$ )



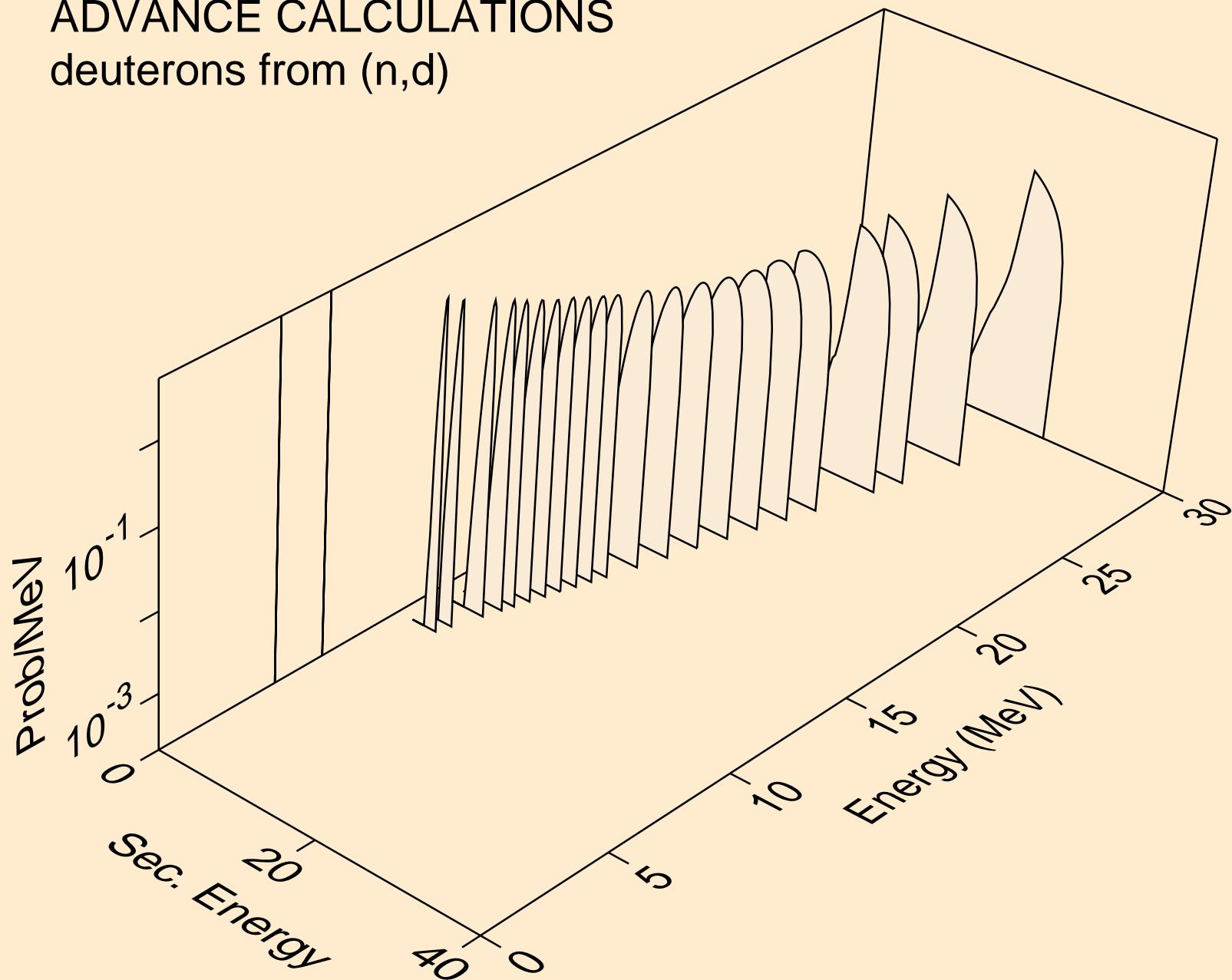
# ADVANCE CALCULATIONS

## deuterons from $(n,n^*)d$



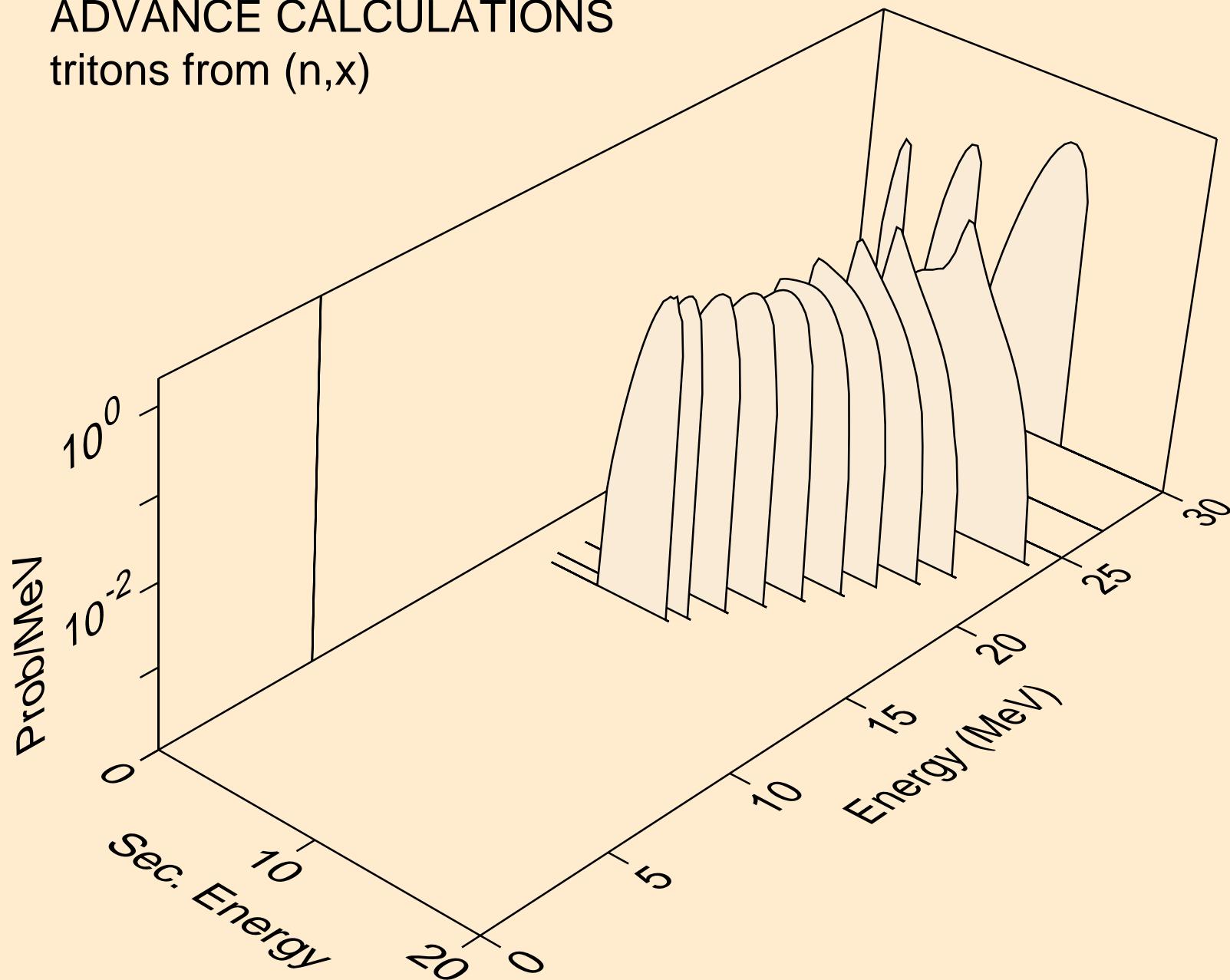
# ADVANCE CALCULATIONS

## deuterons from (n,d)



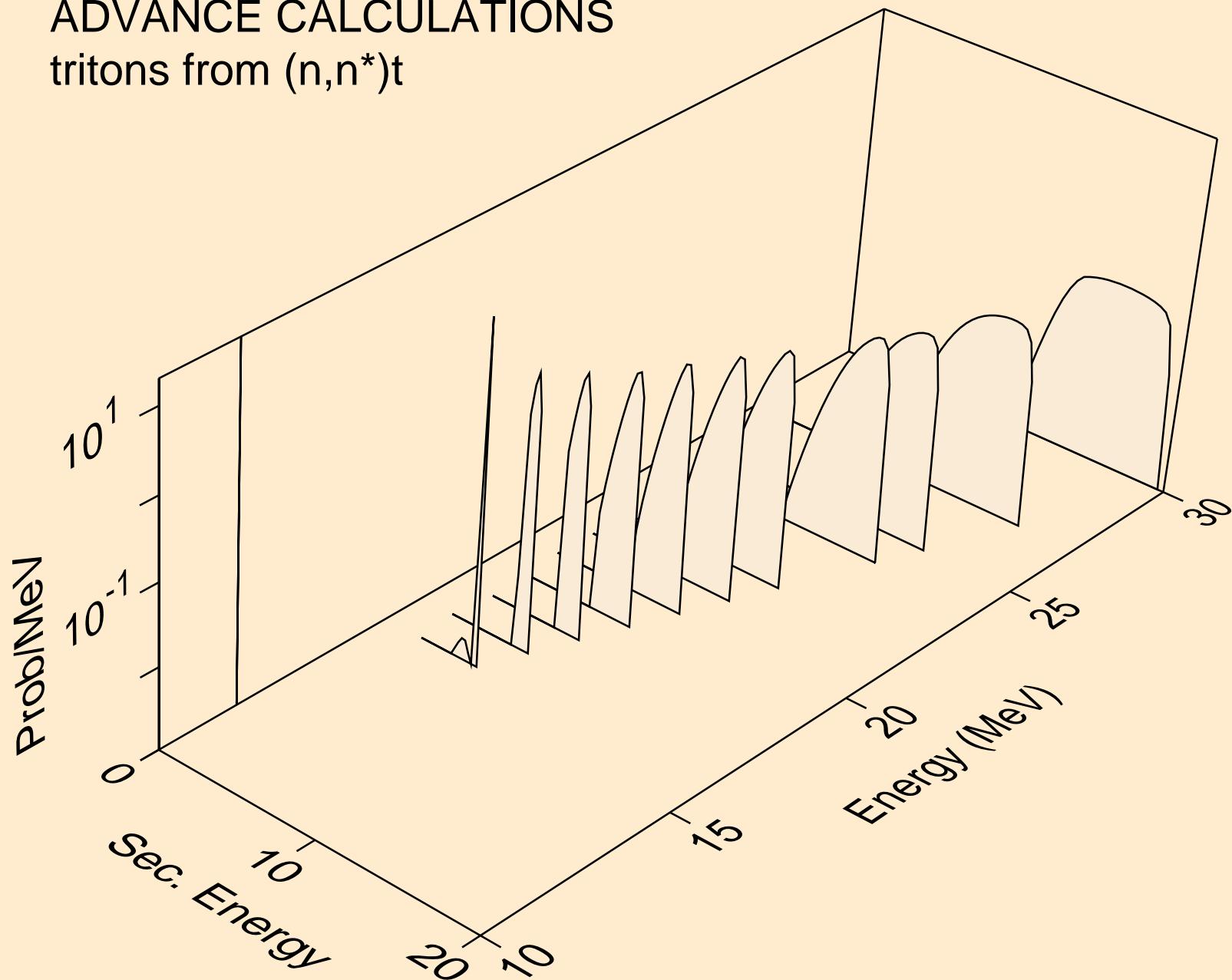
# ADVANCE CALCULATIONS

## tritons from (n,x)



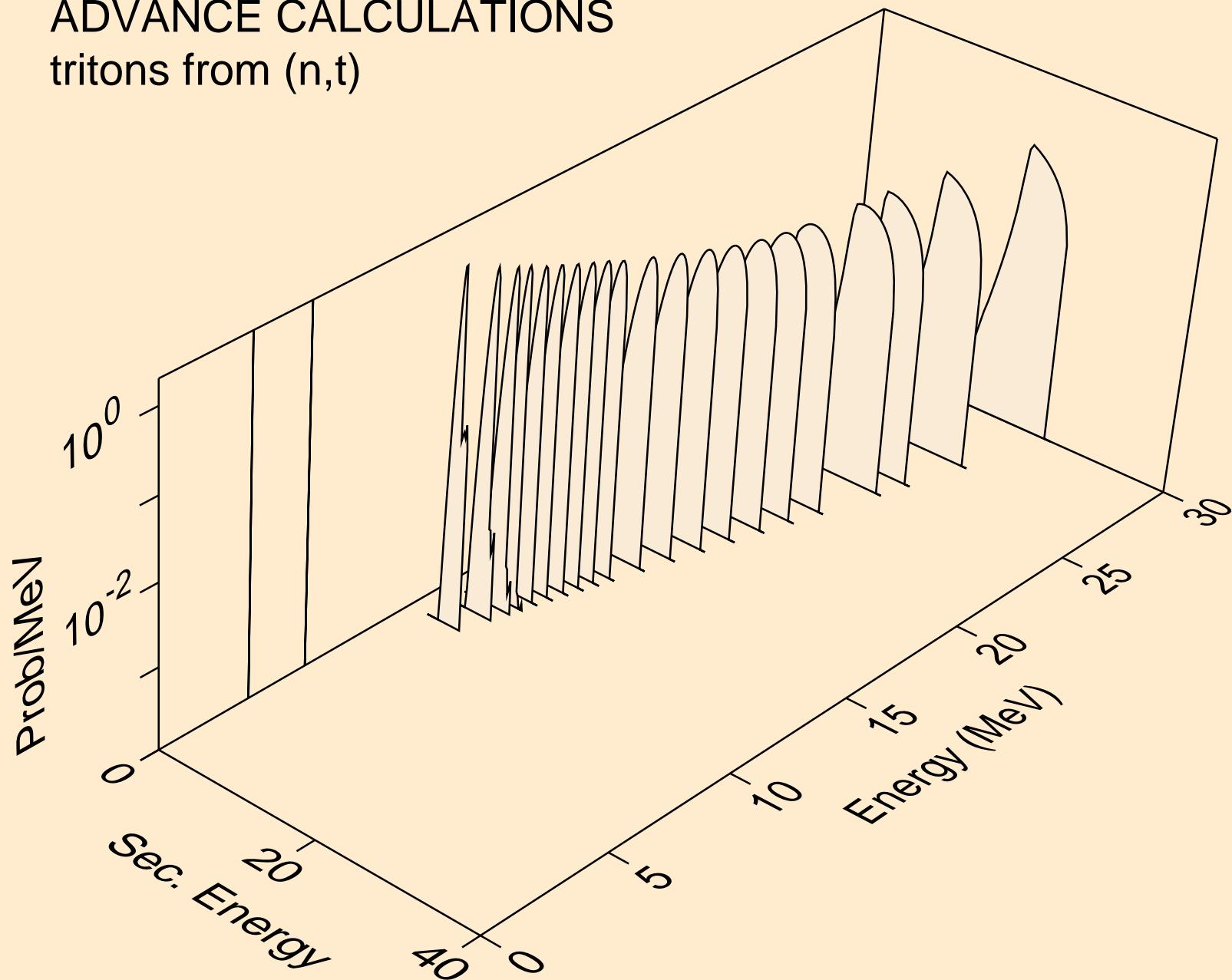
# ADVANCE CALCULATIONS

## tritons from $(n,n^*)t$



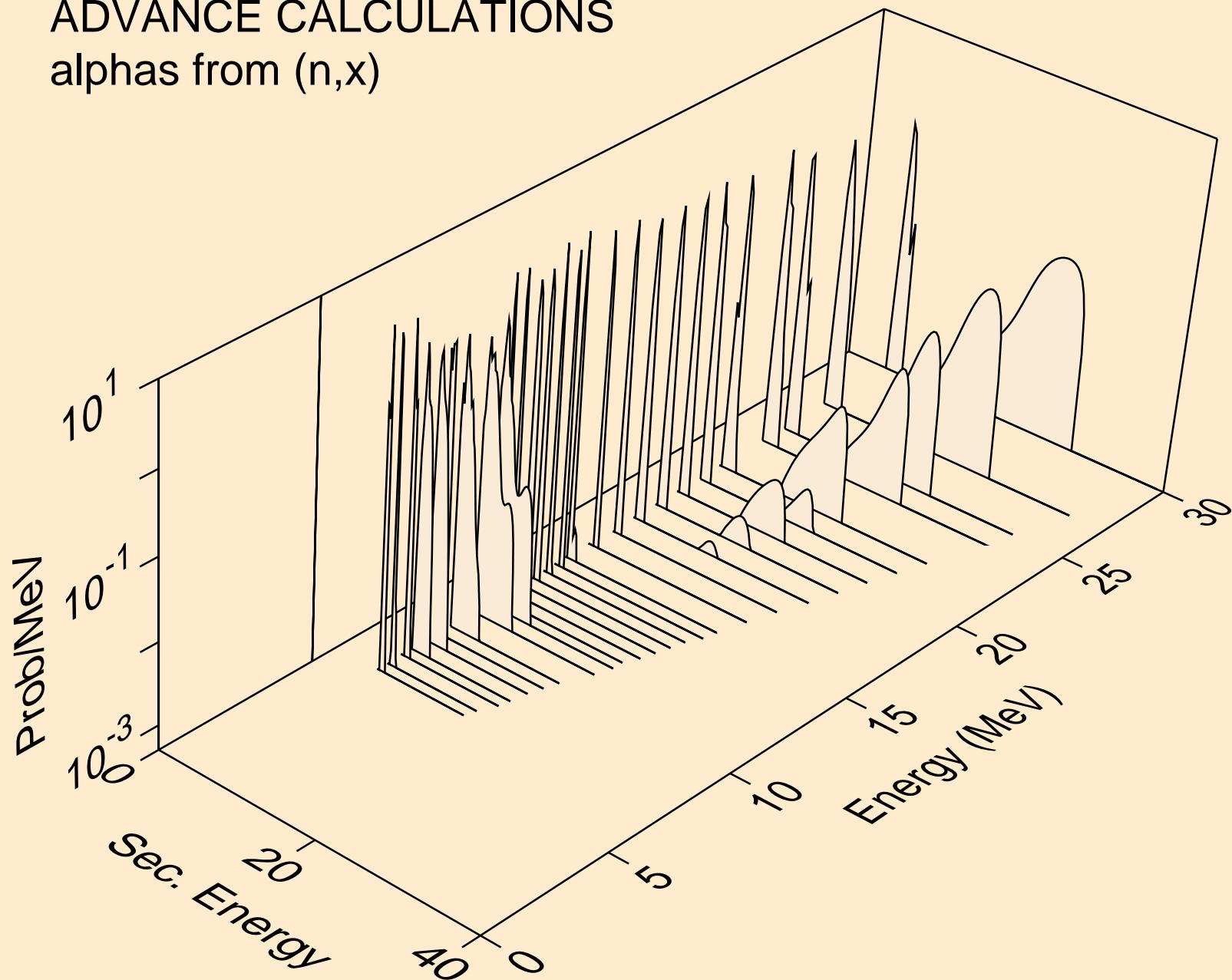
# ADVANCE CALCULATIONS

## tritons from (n,t)



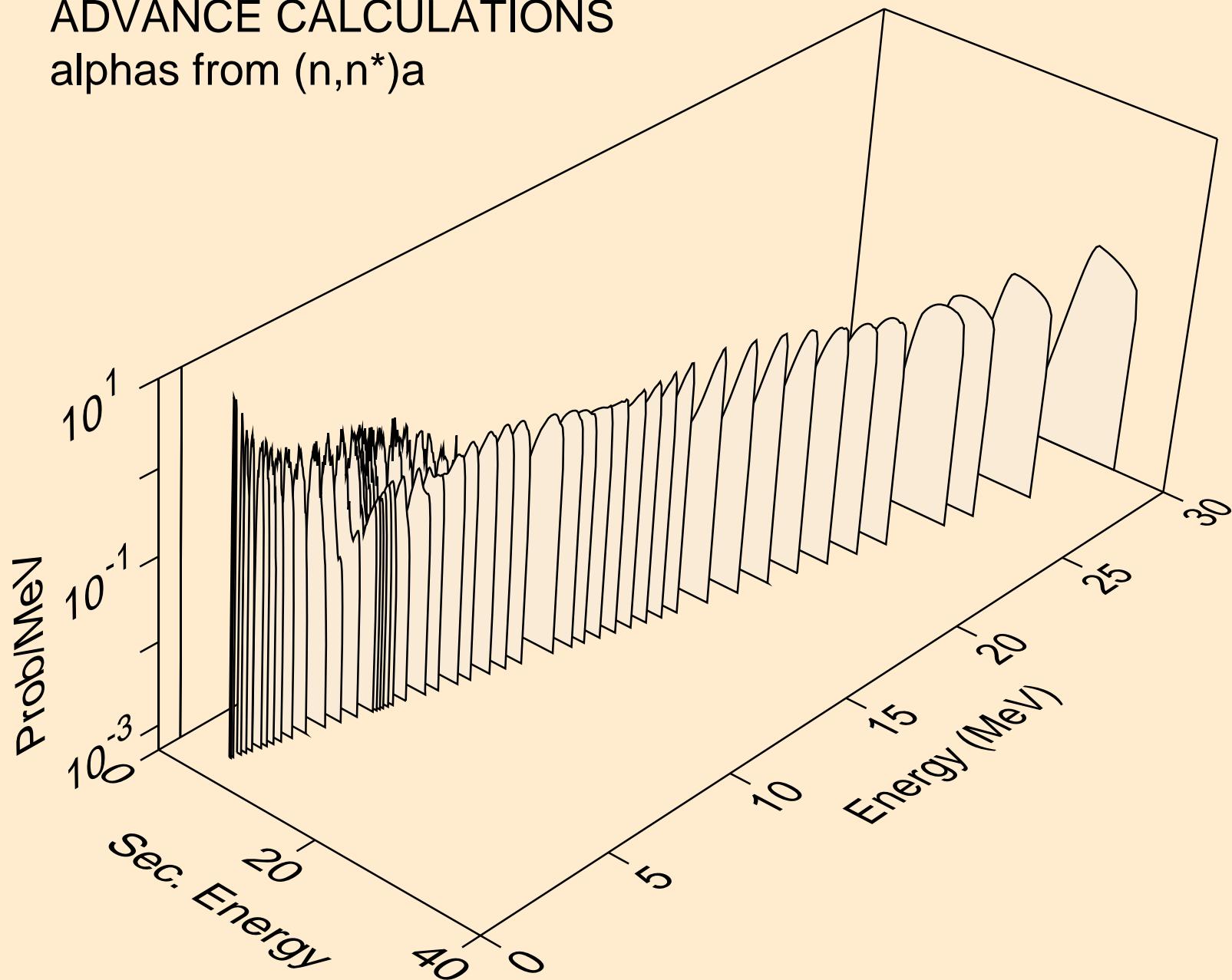
# ADVANCE CALCULATIONS

alphas from (n,x)



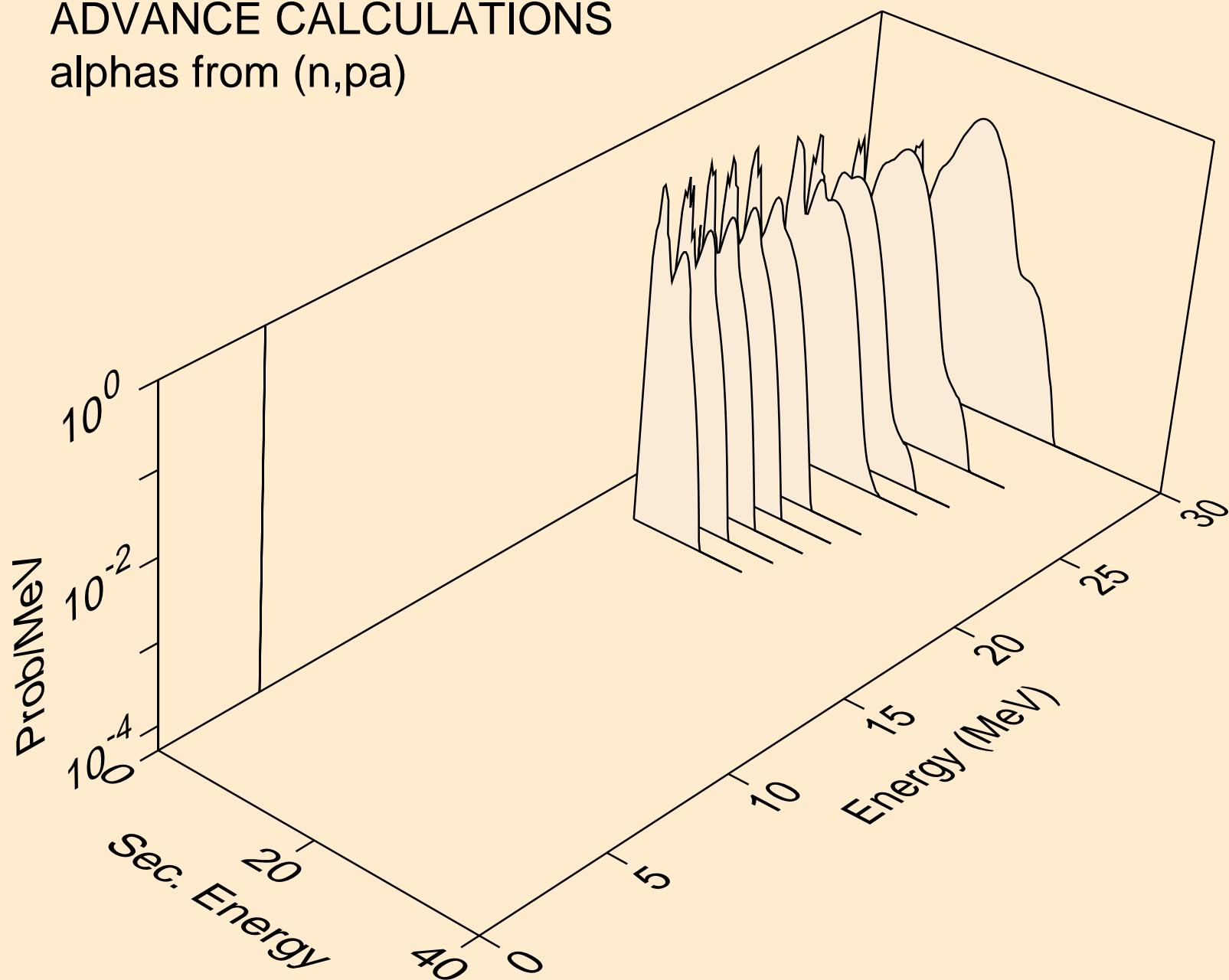
# ADVANCE CALCULATIONS

alphas from  $(n,n^*)a$



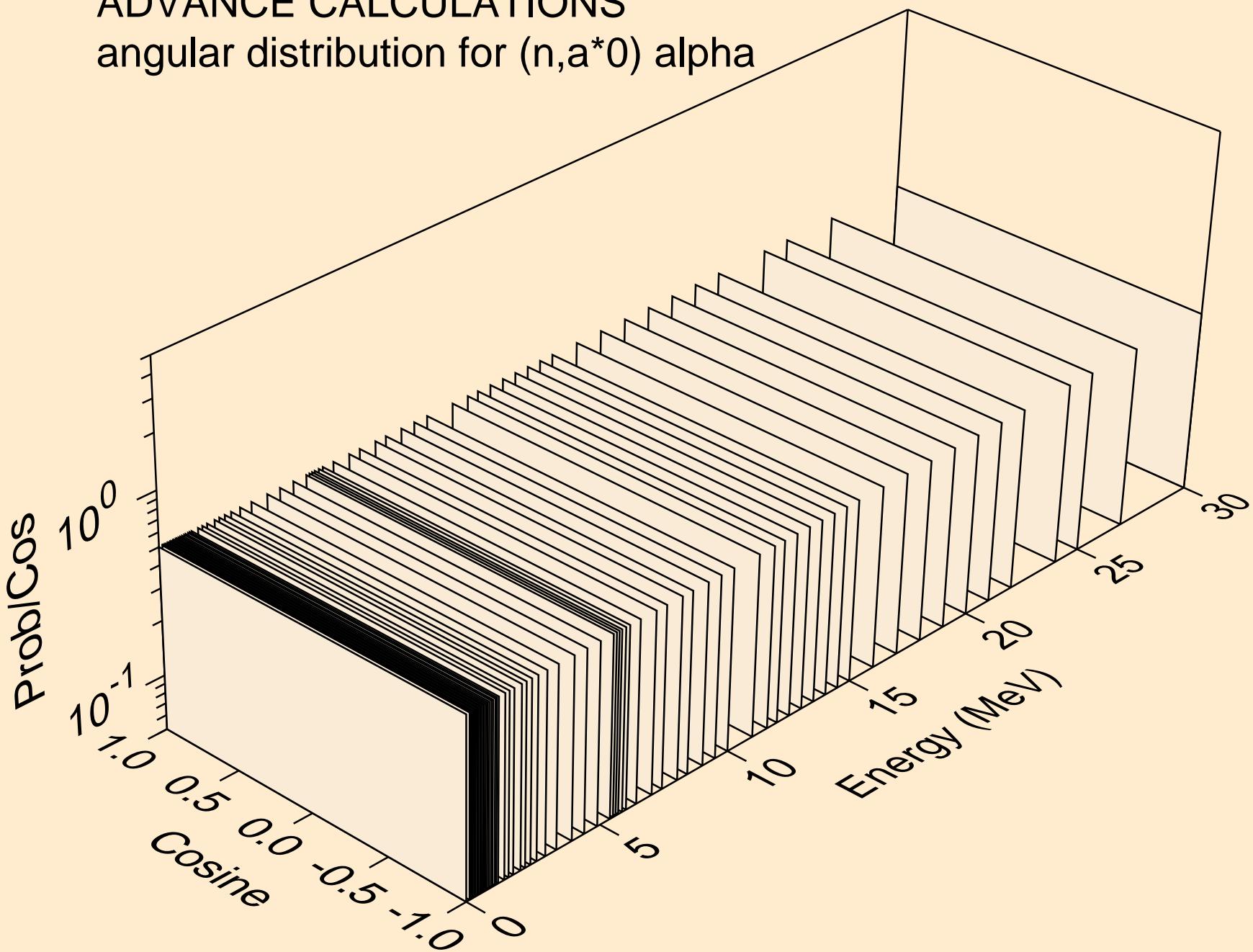
# ADVANCE CALCULATIONS

alphas from (n,pa)



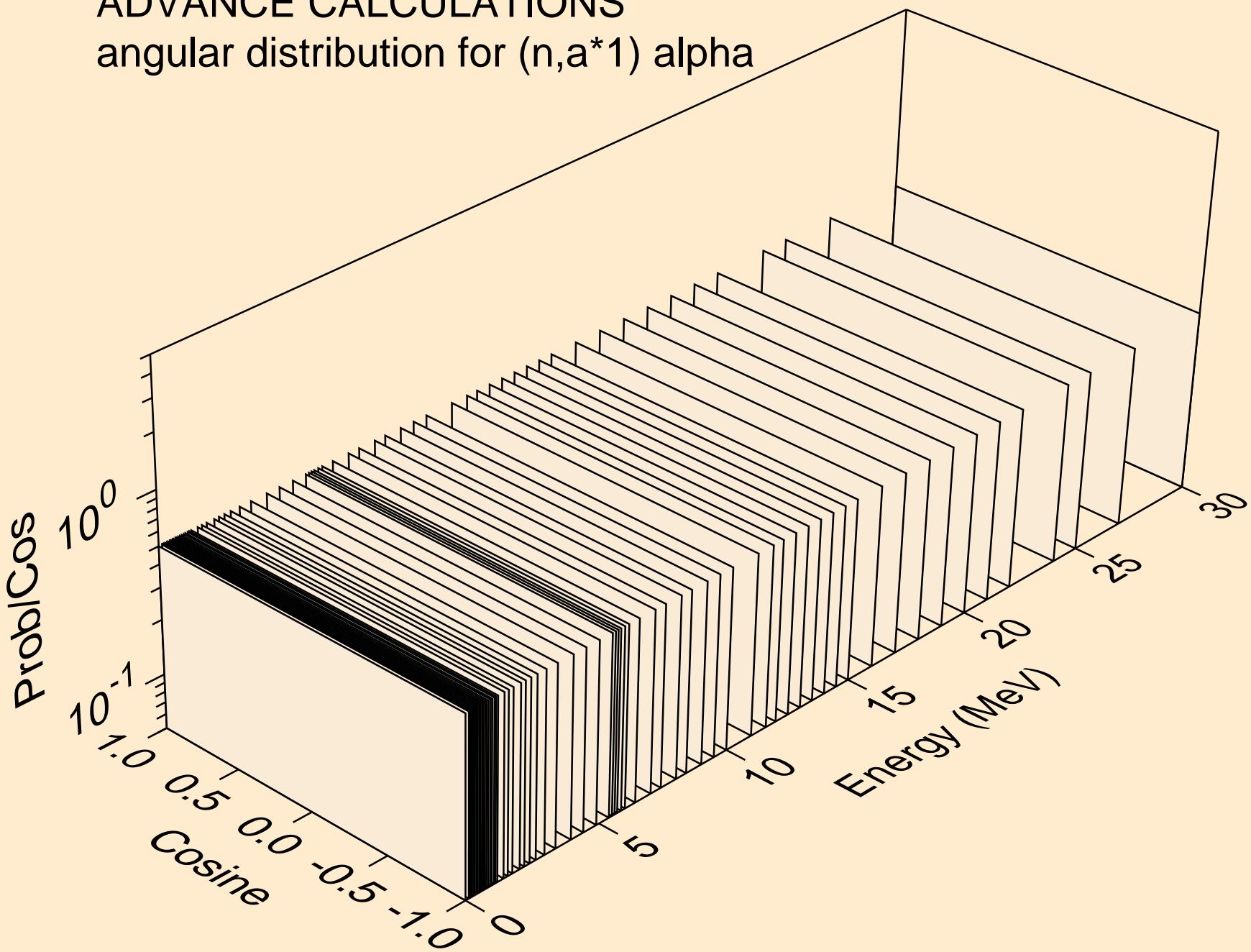
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*0) alpha



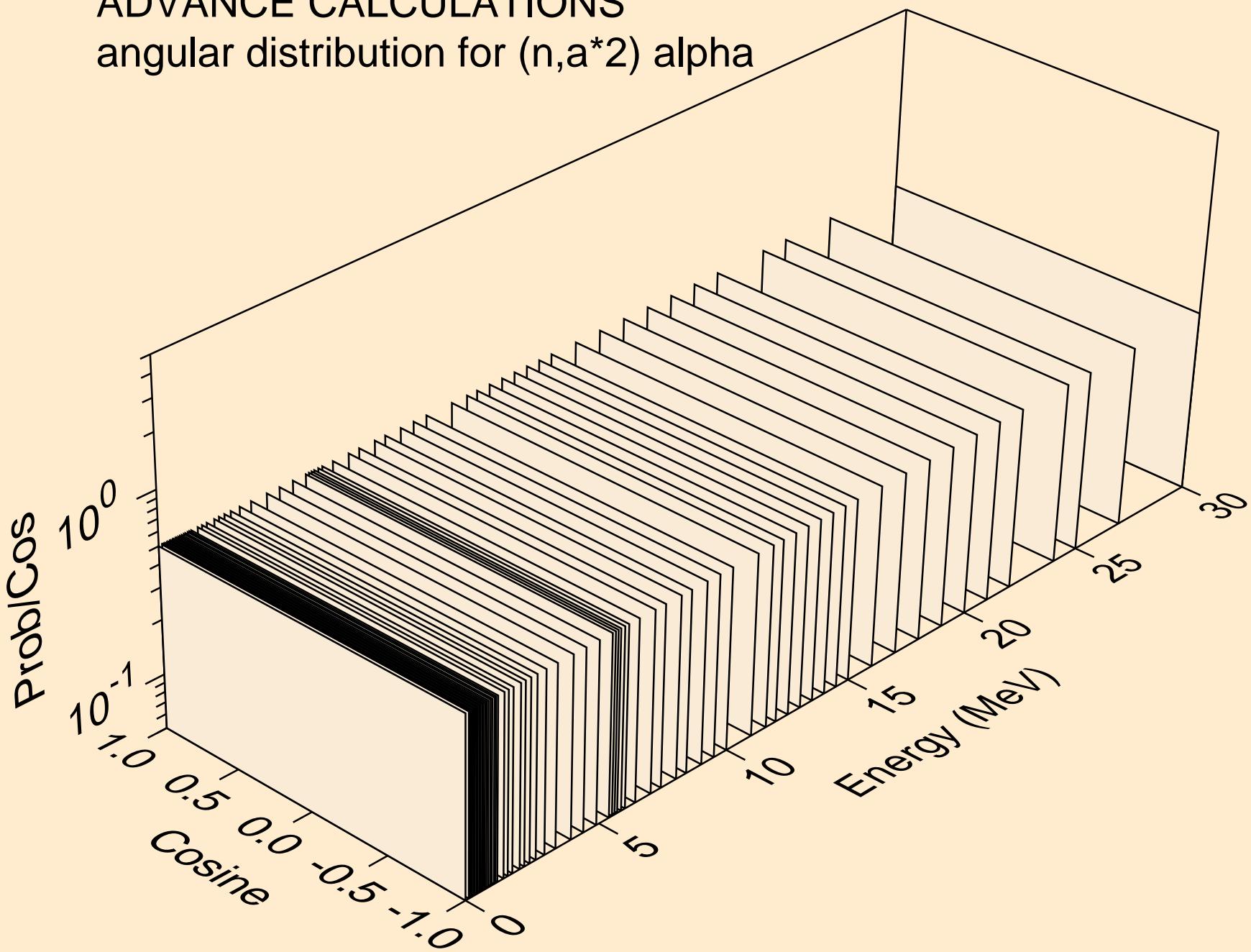
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*1) alpha



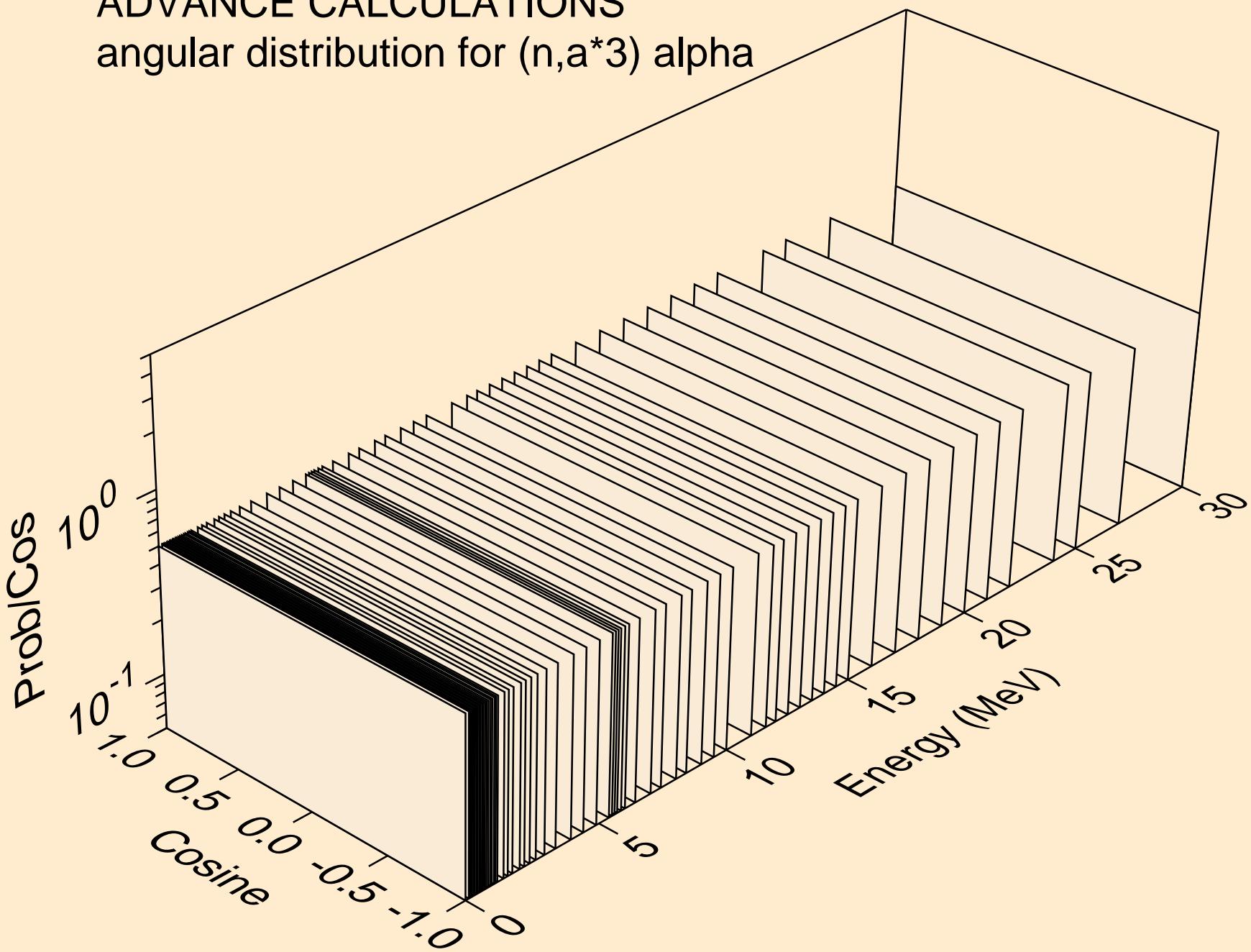
# ADVANCE CALCULATIONS

## angular distribution for $(n,a^*2)$ alpha



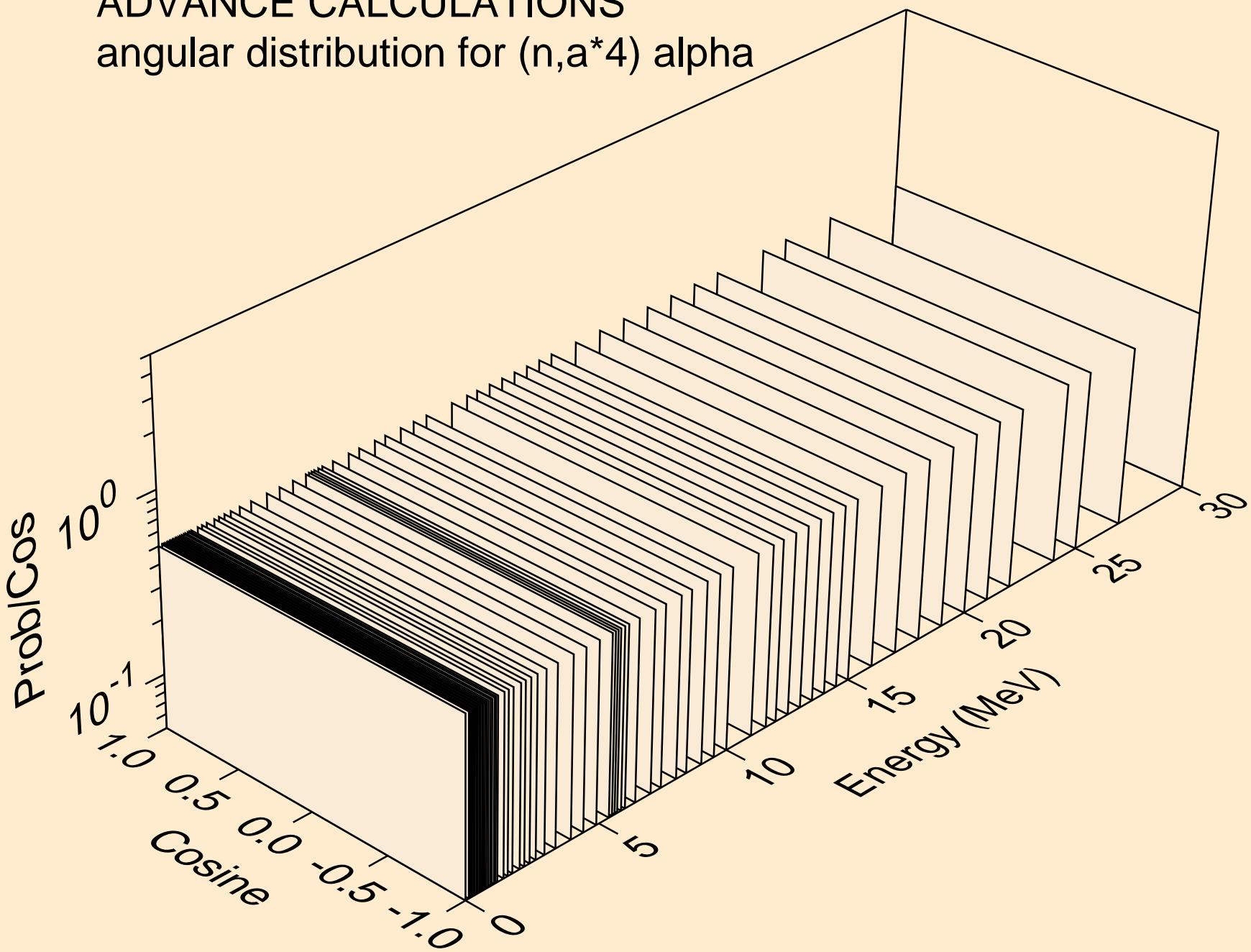
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*3) alpha



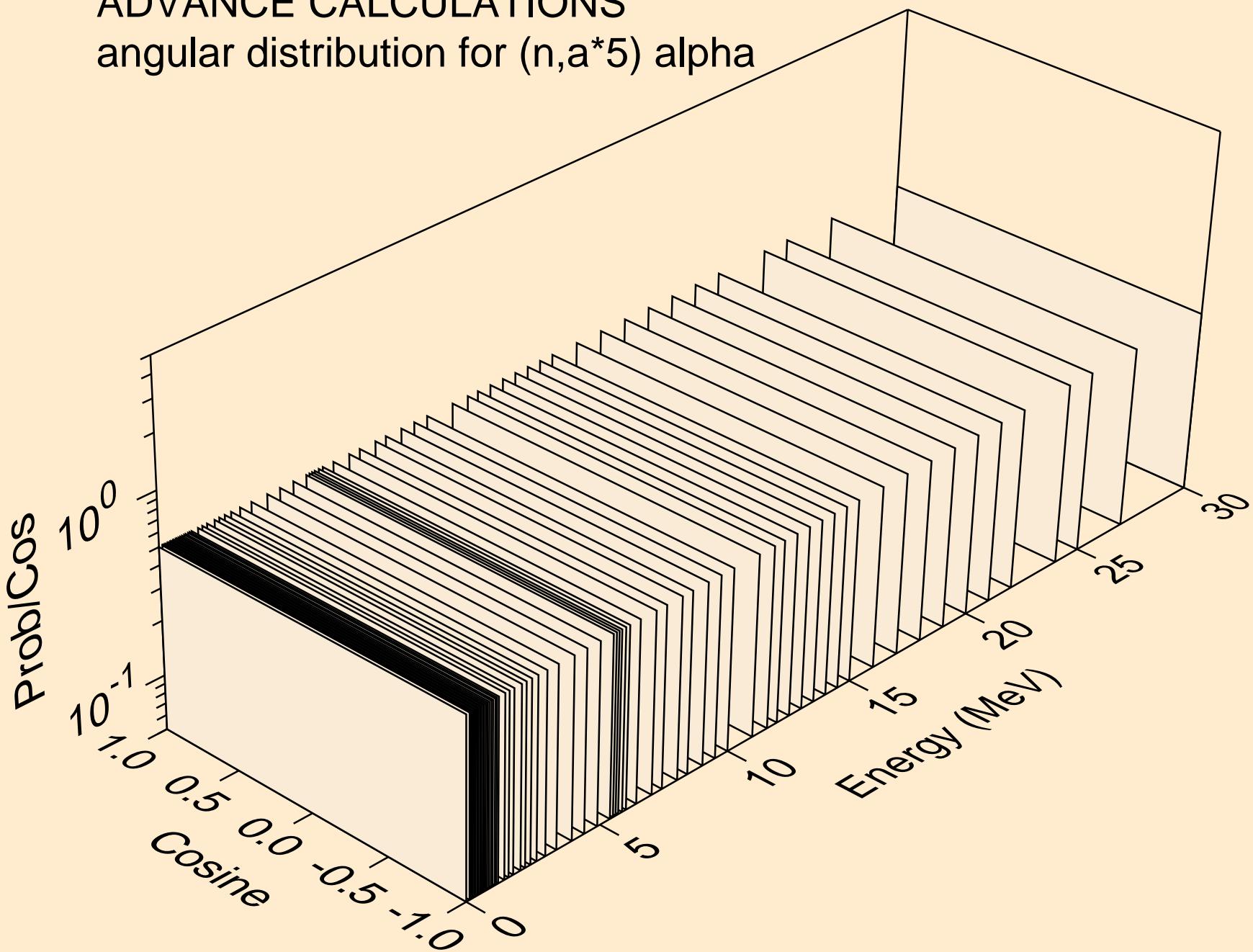
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*4) alpha



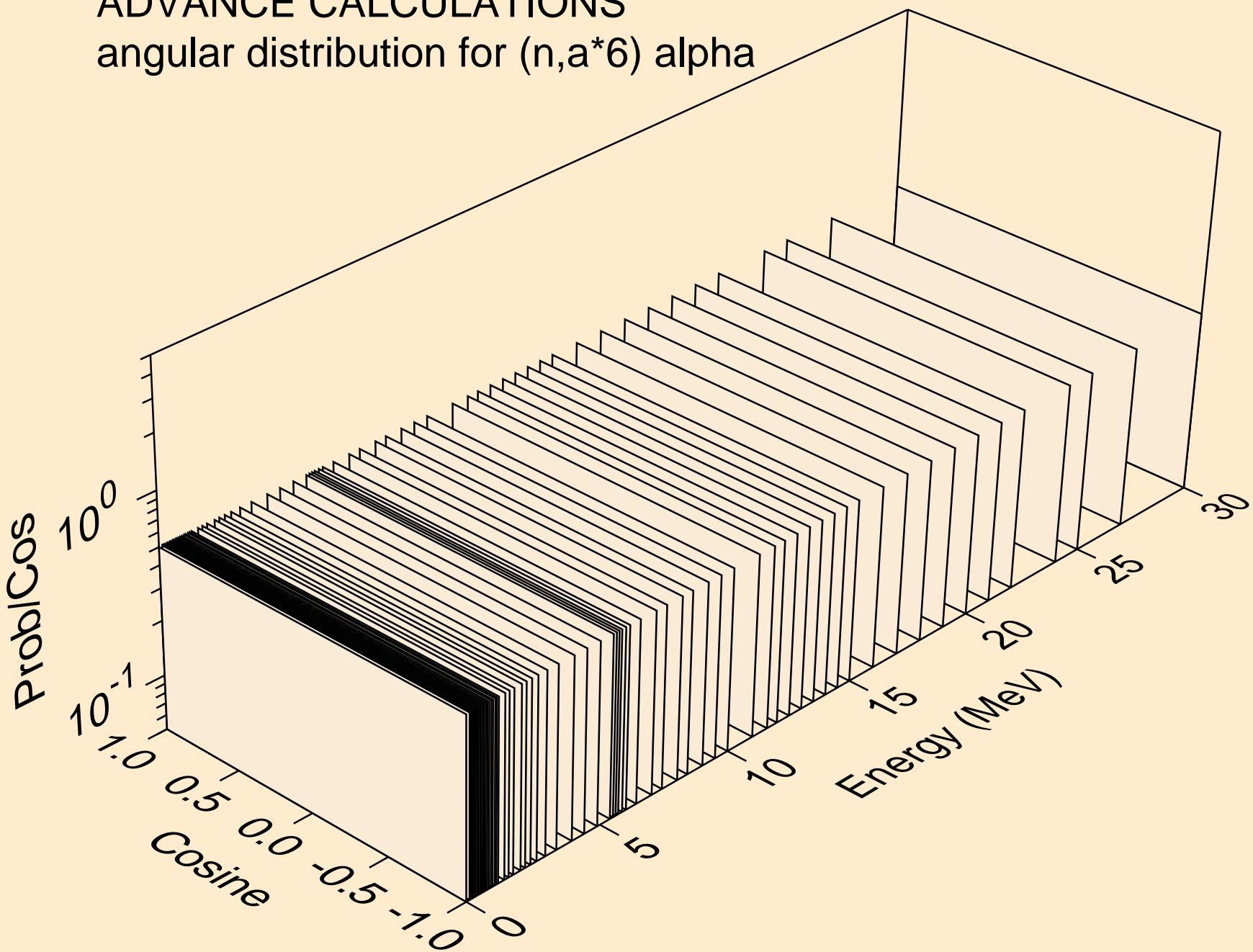
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*5) alpha



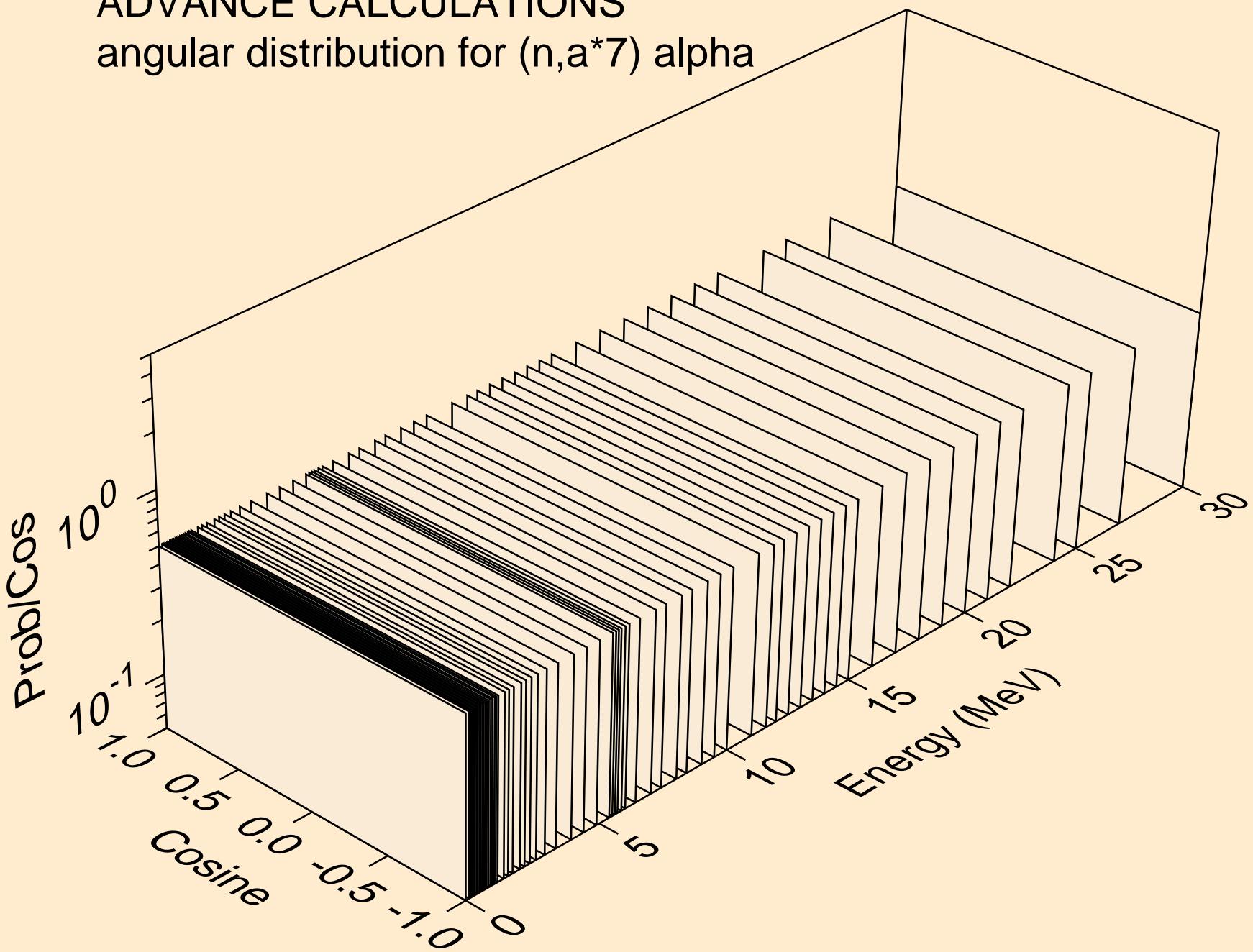
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*6) alpha



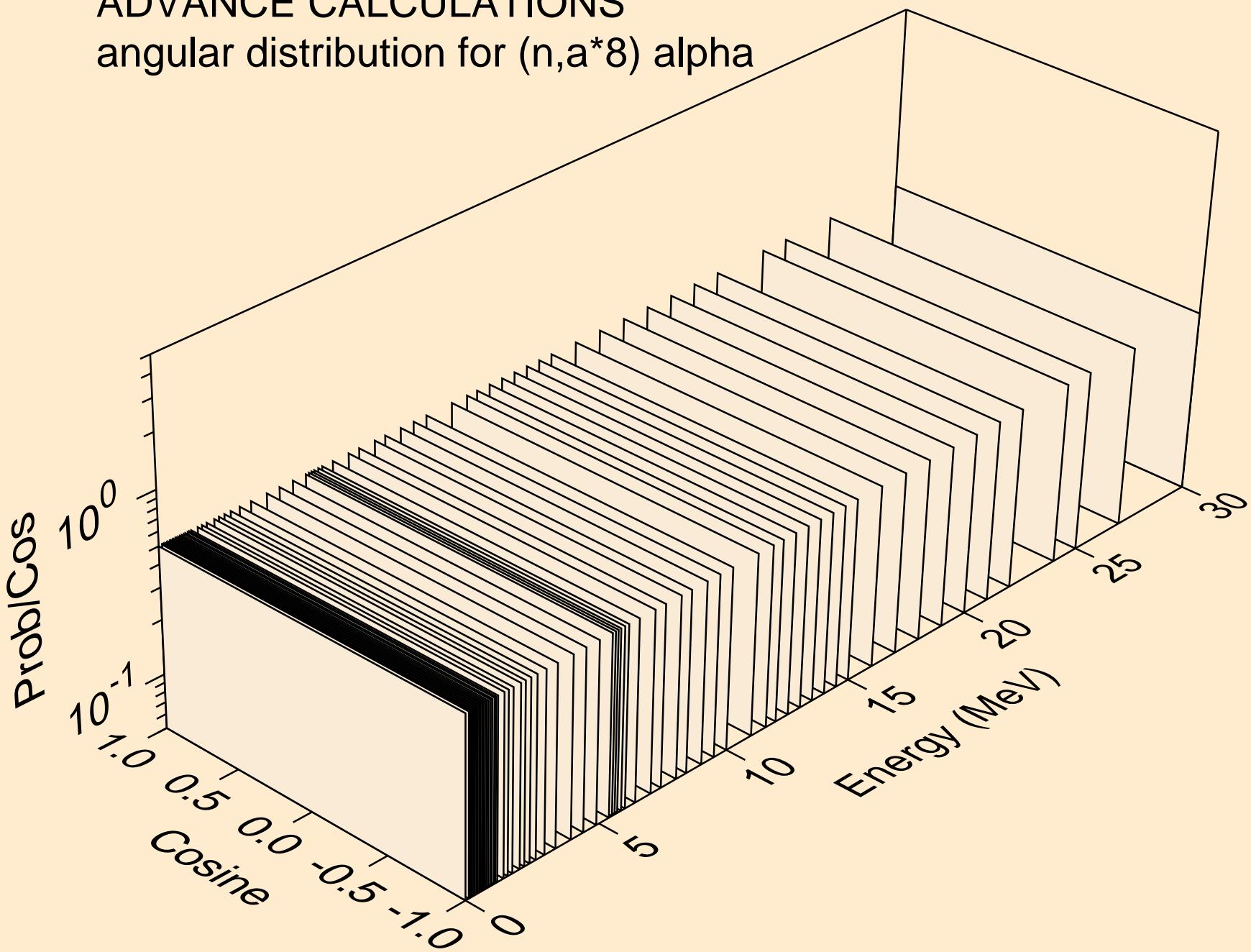
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 7$ ) alpha



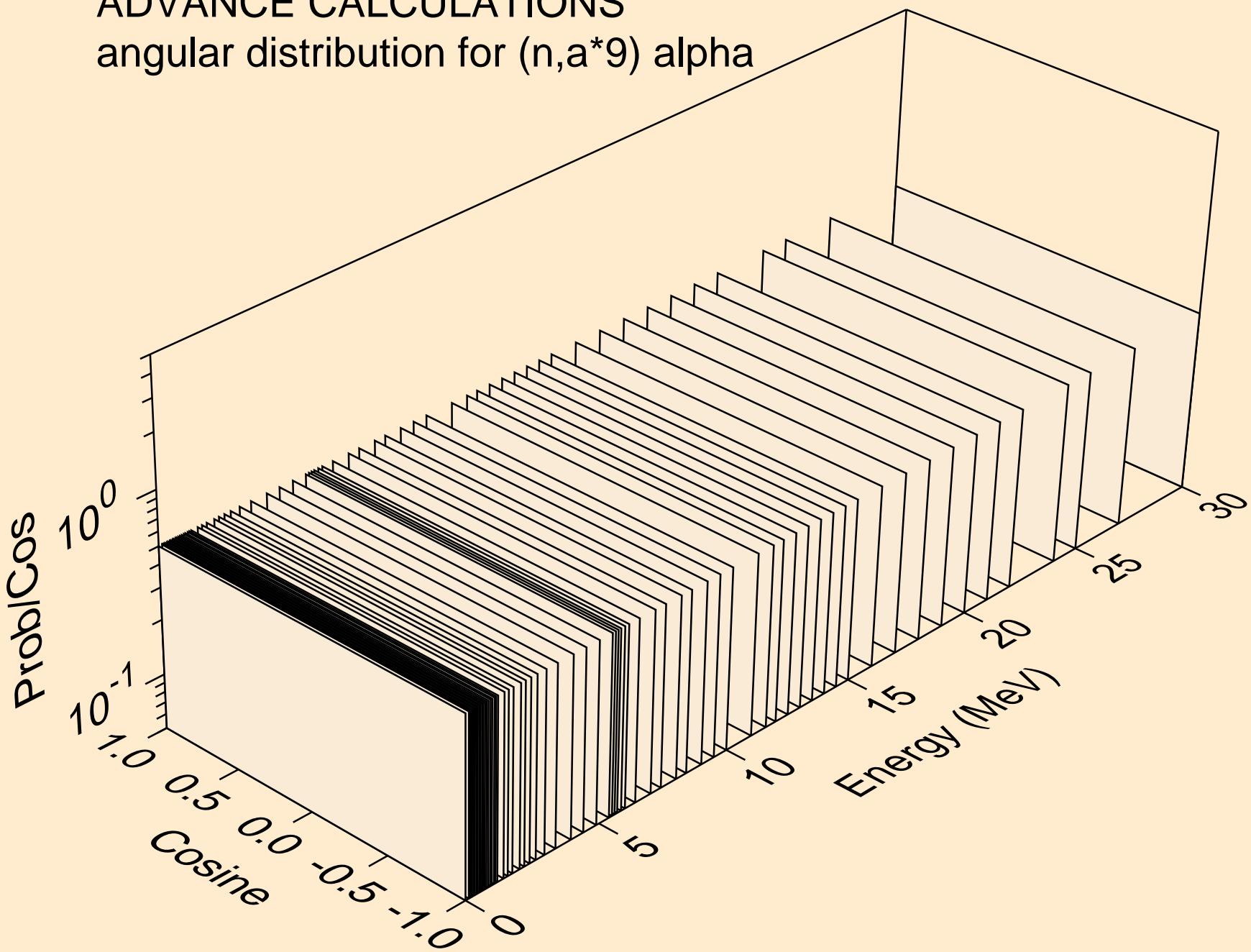
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*8) alpha



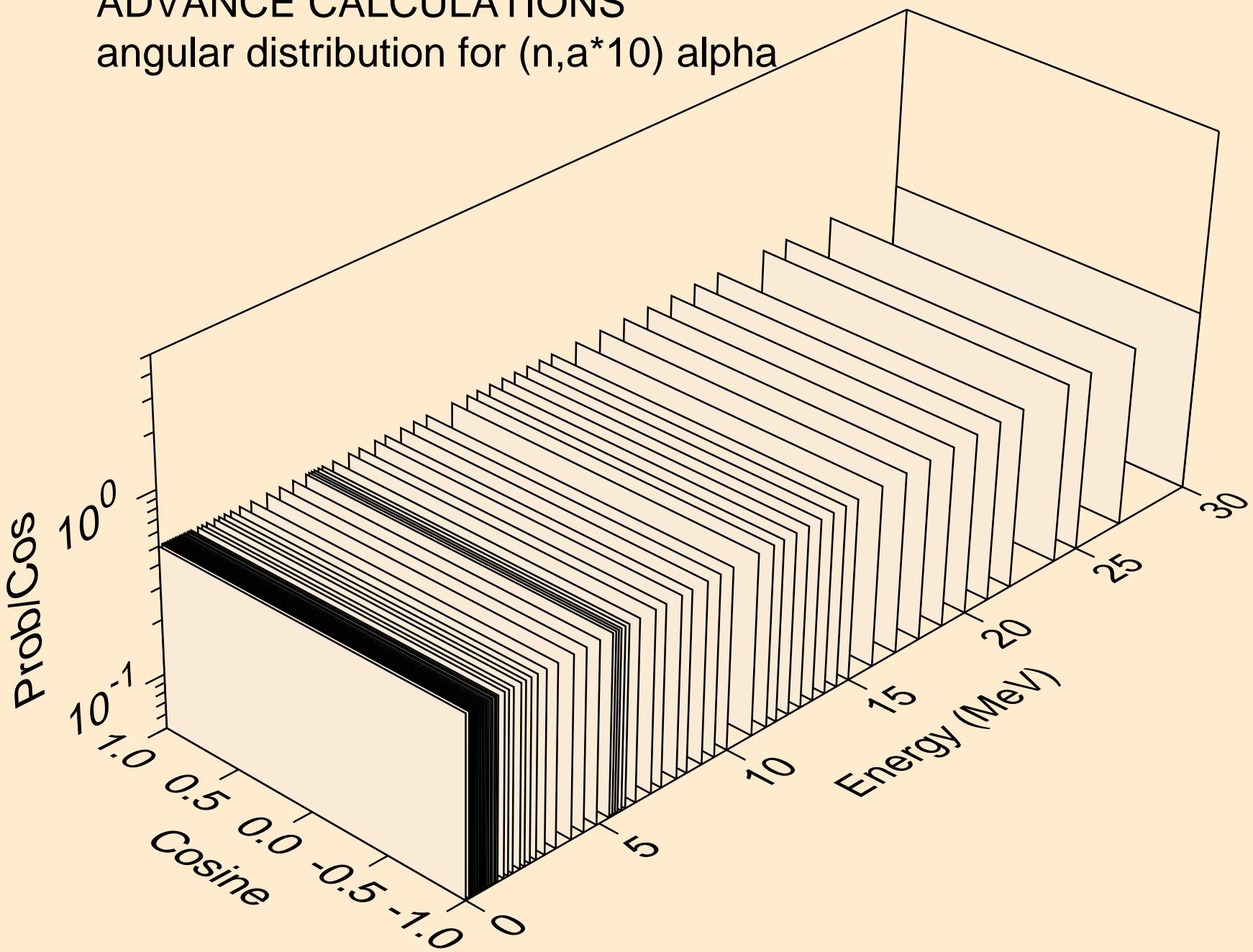
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*9) alpha



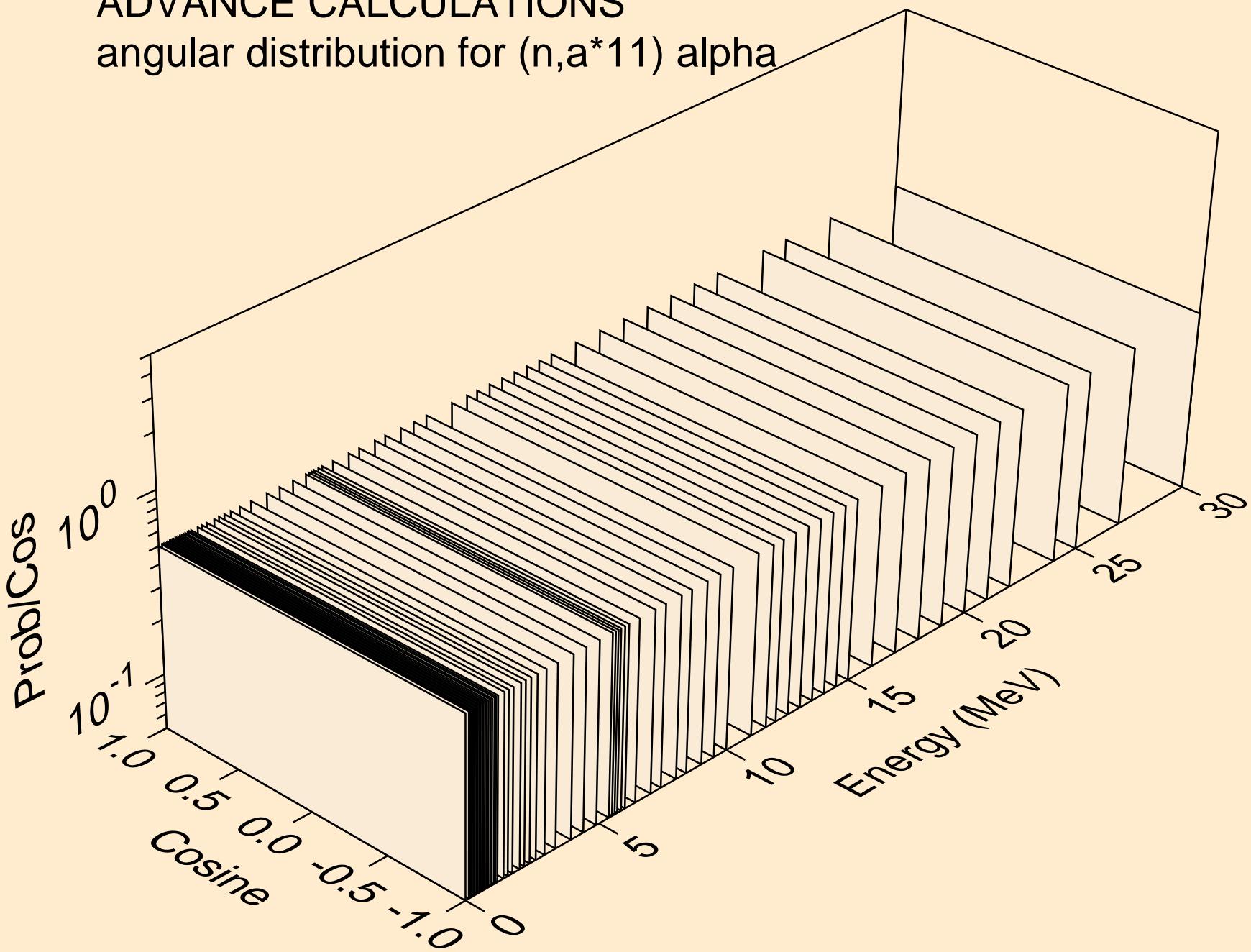
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*10) alpha



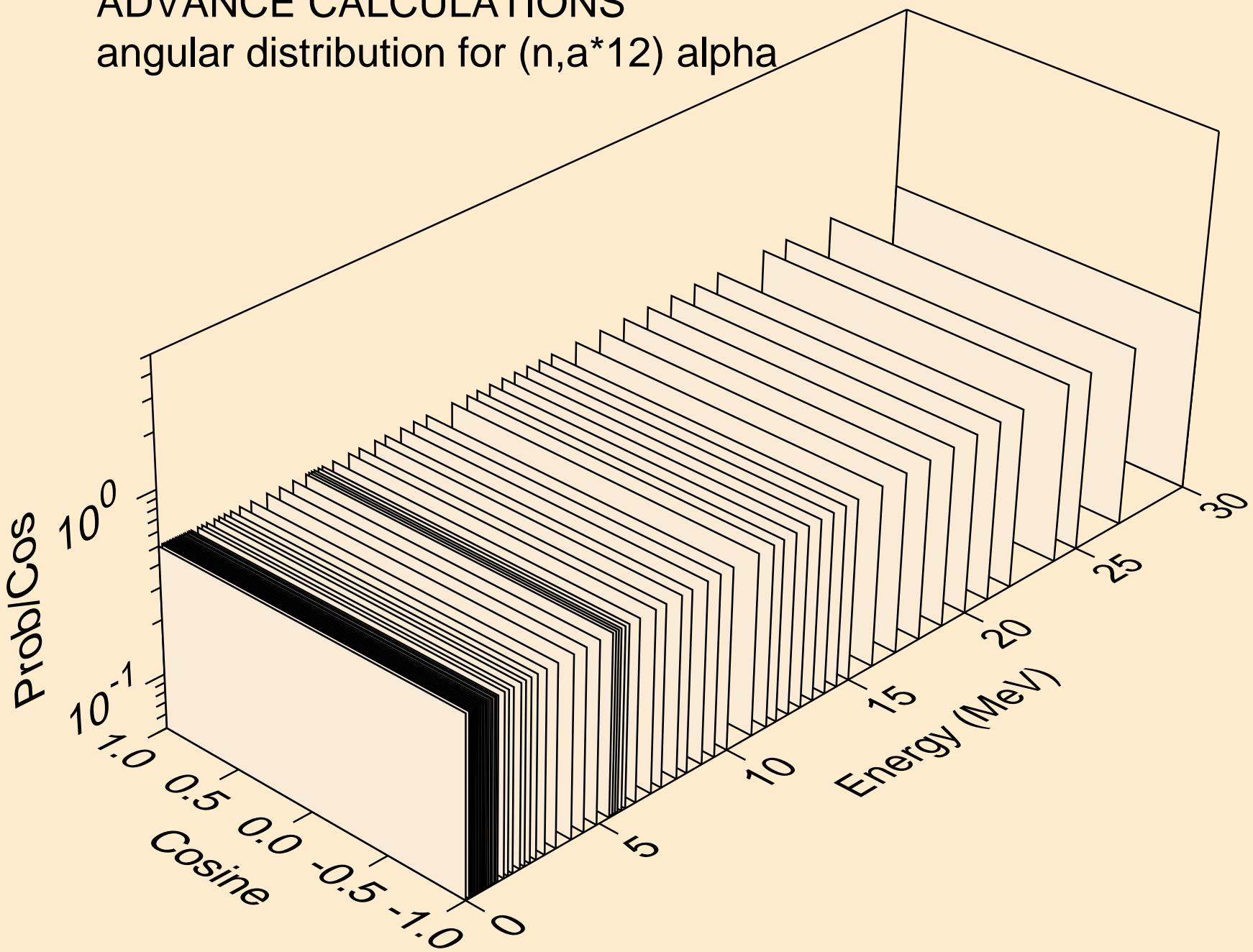
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*11) alpha



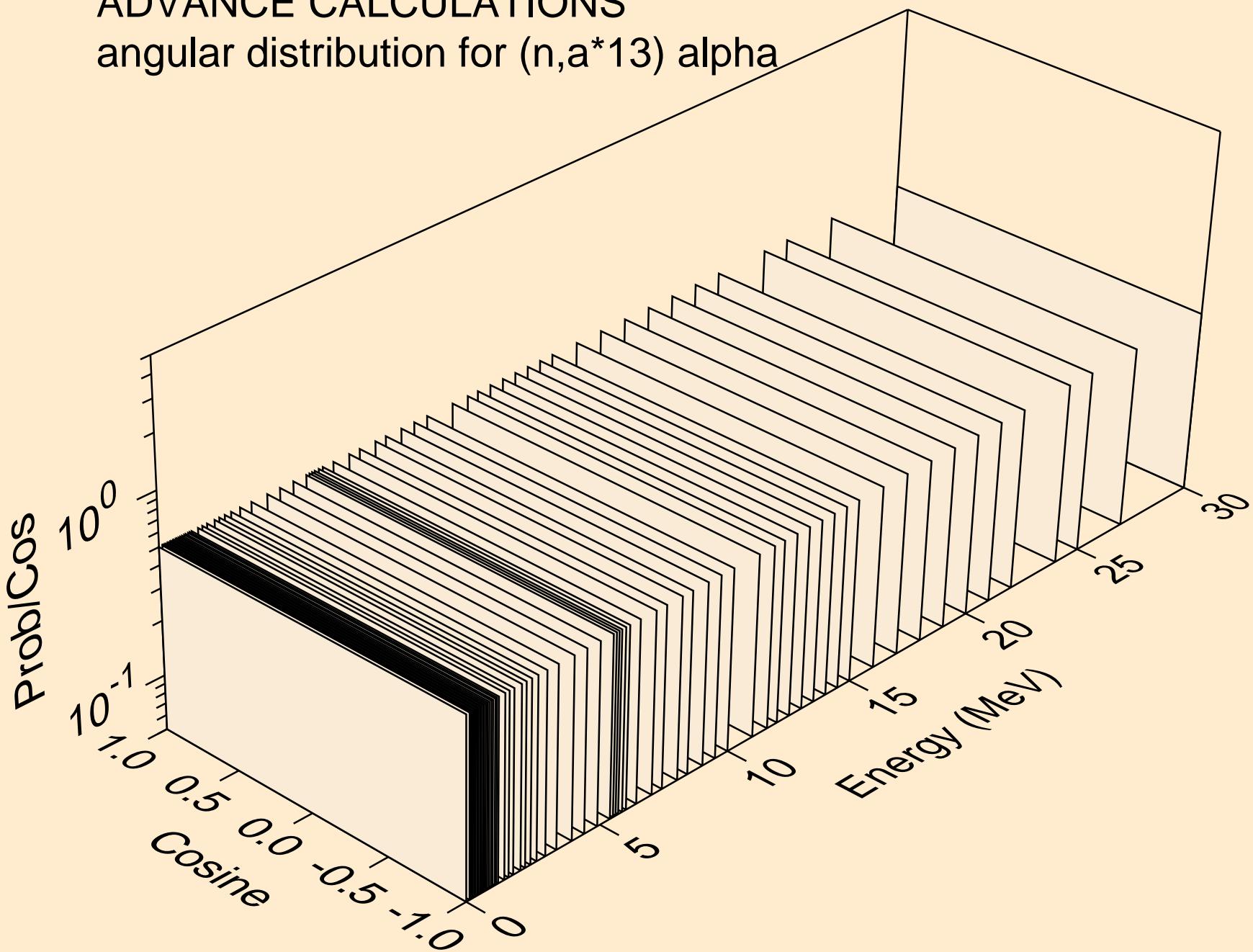
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*12) alpha



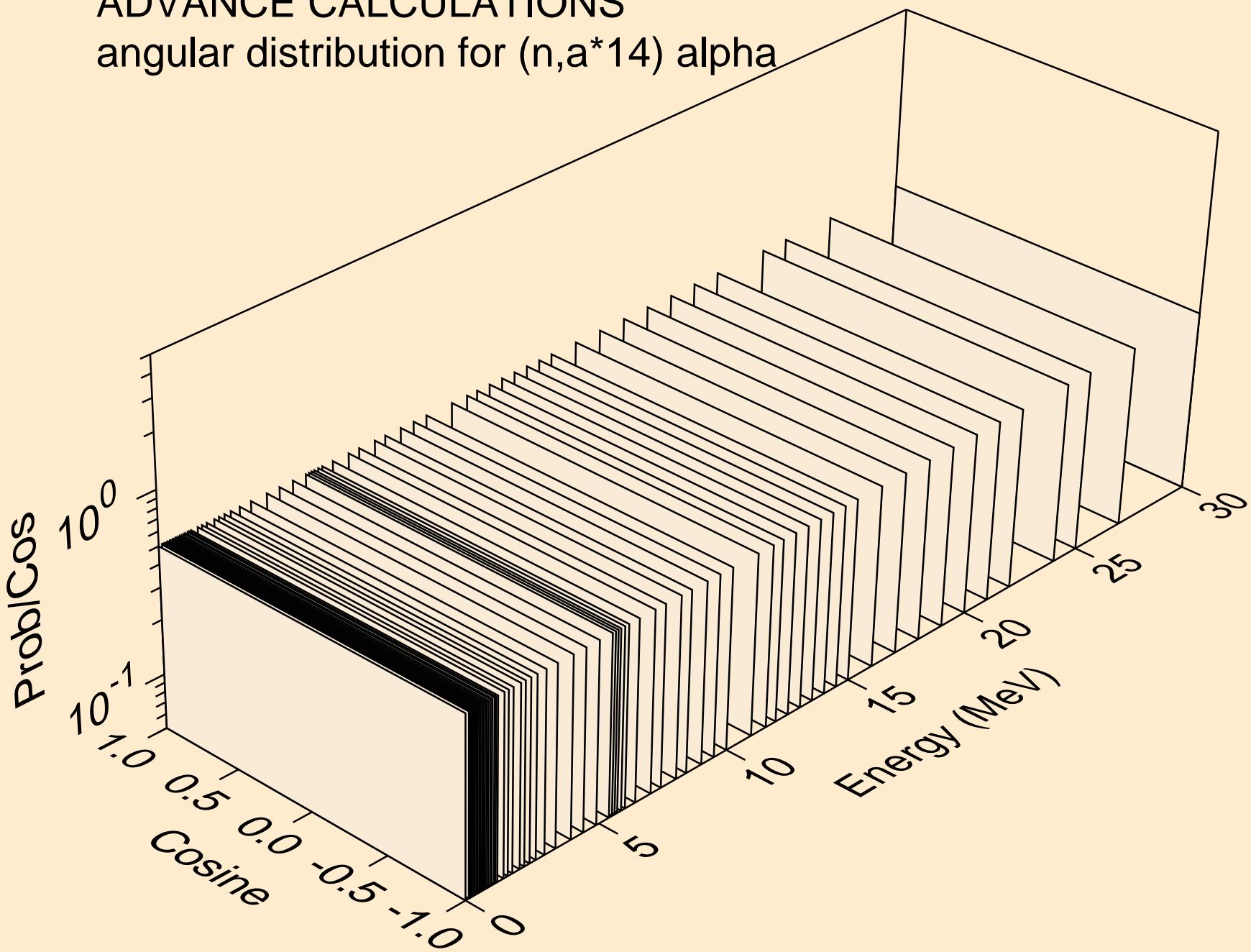
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*13) alpha



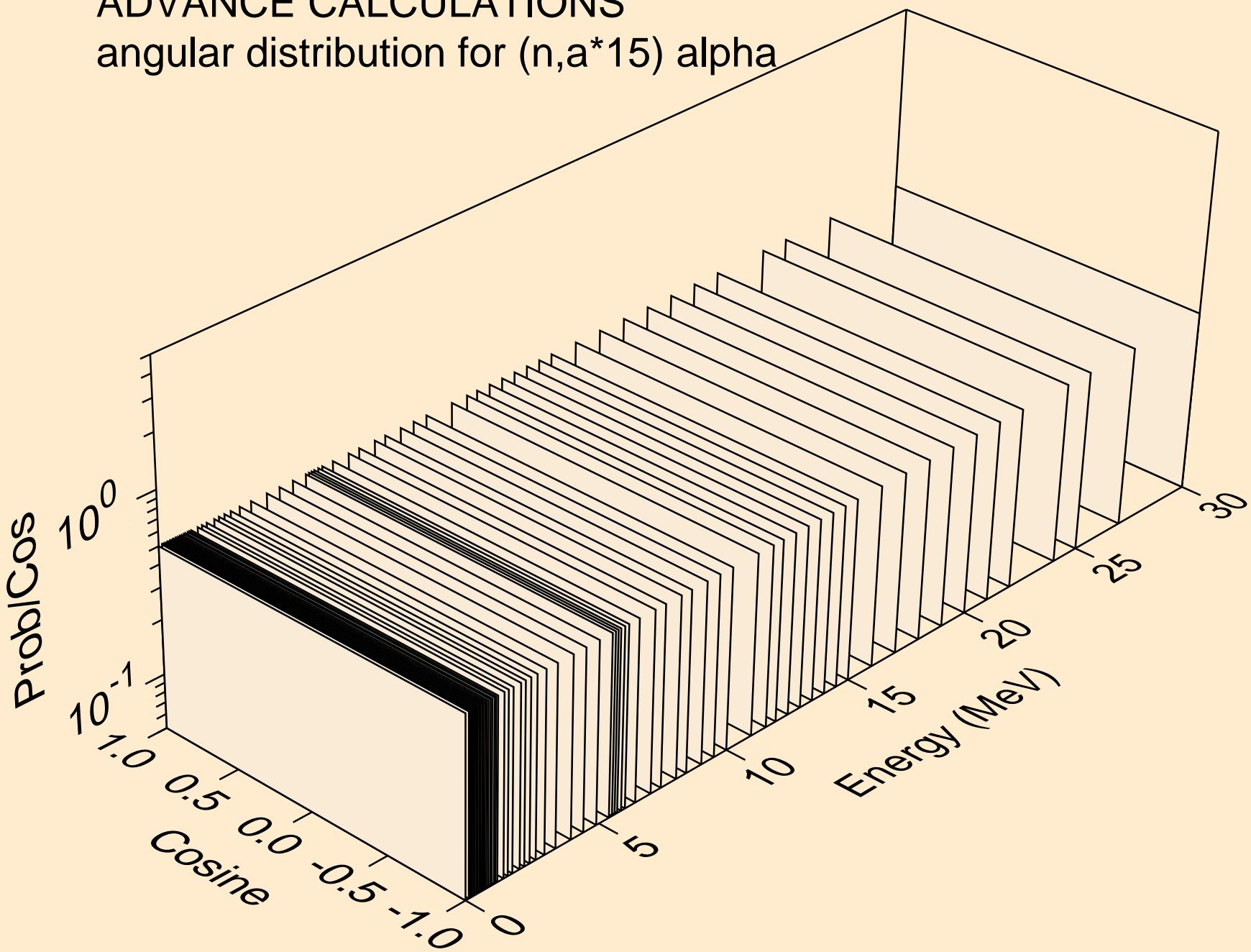
# ADVANCE CALCULATIONS

## angular distribution for ( $n,a^*14$ ) alpha



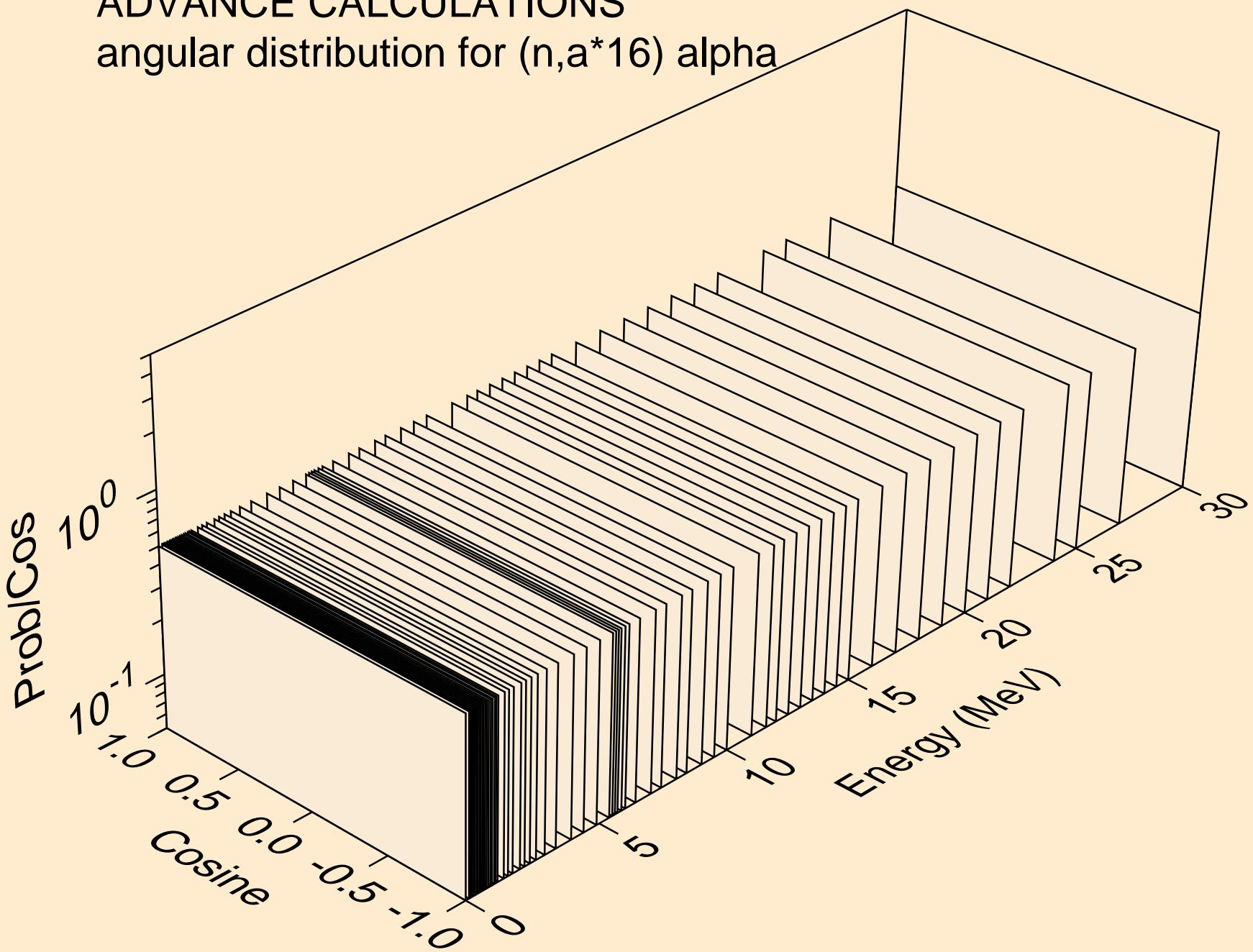
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*15) alpha



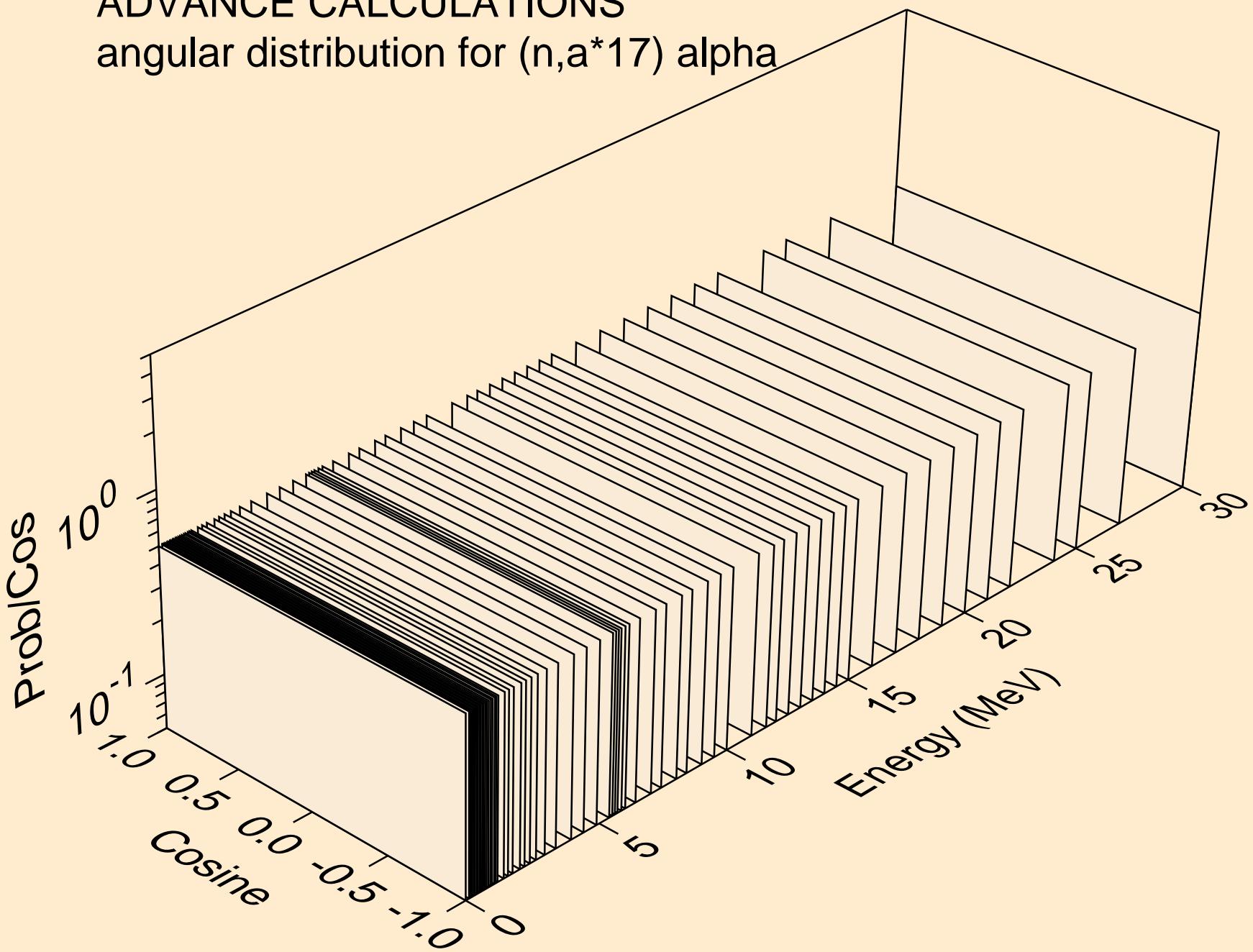
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*16) alpha



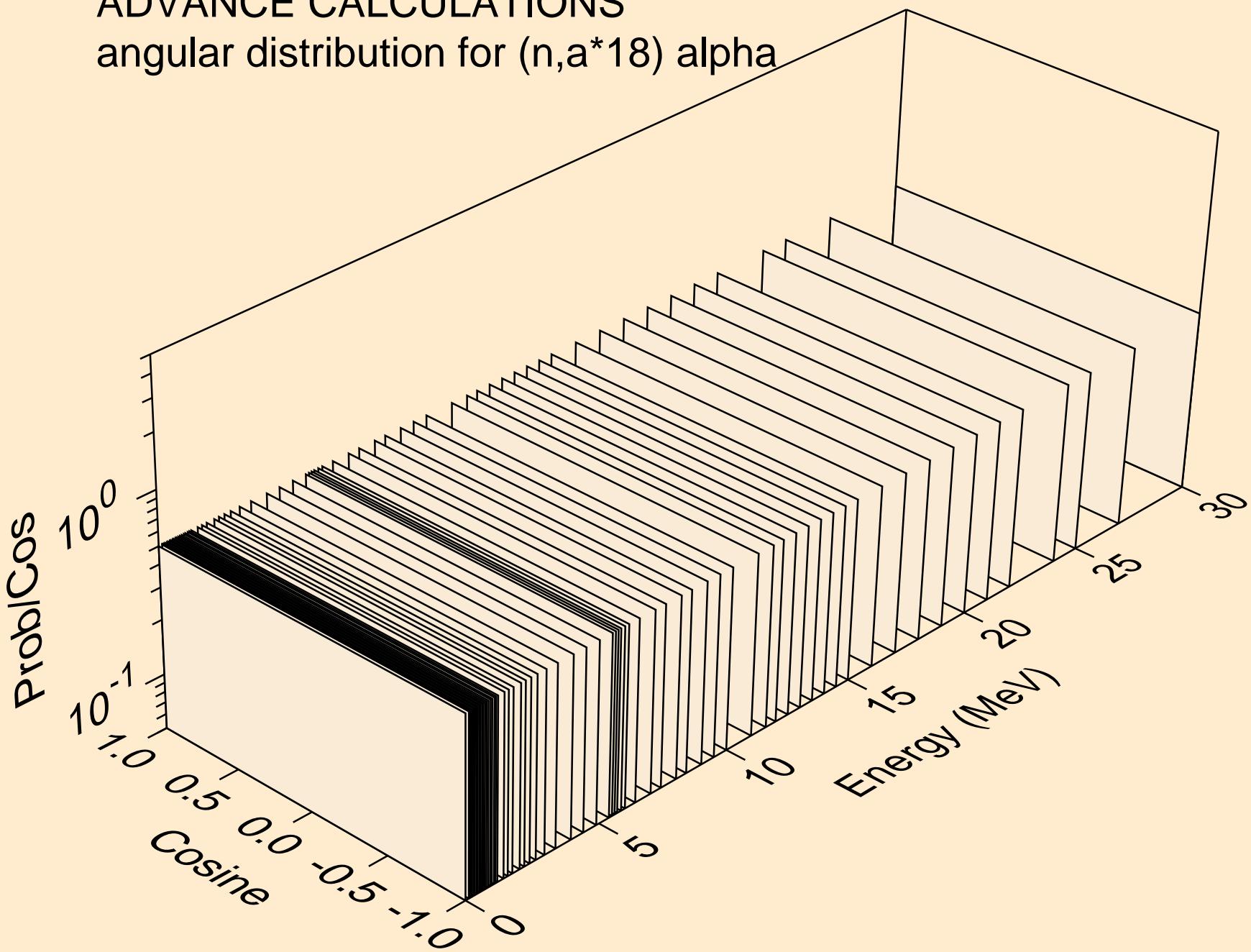
# ADVANCE CALCULATIONS

## angular distribution for ( $n,a^*17$ ) alpha



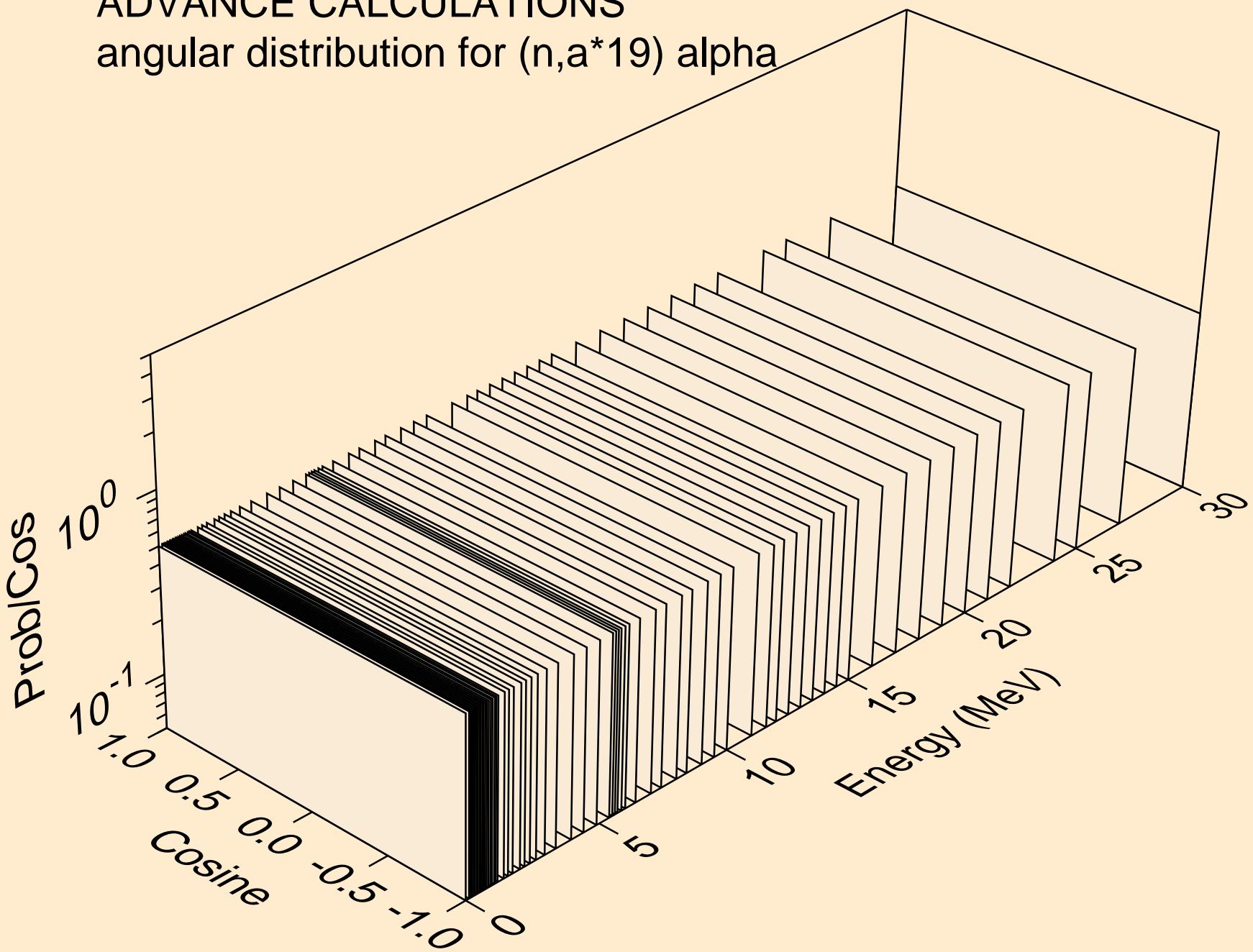
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*18) alpha



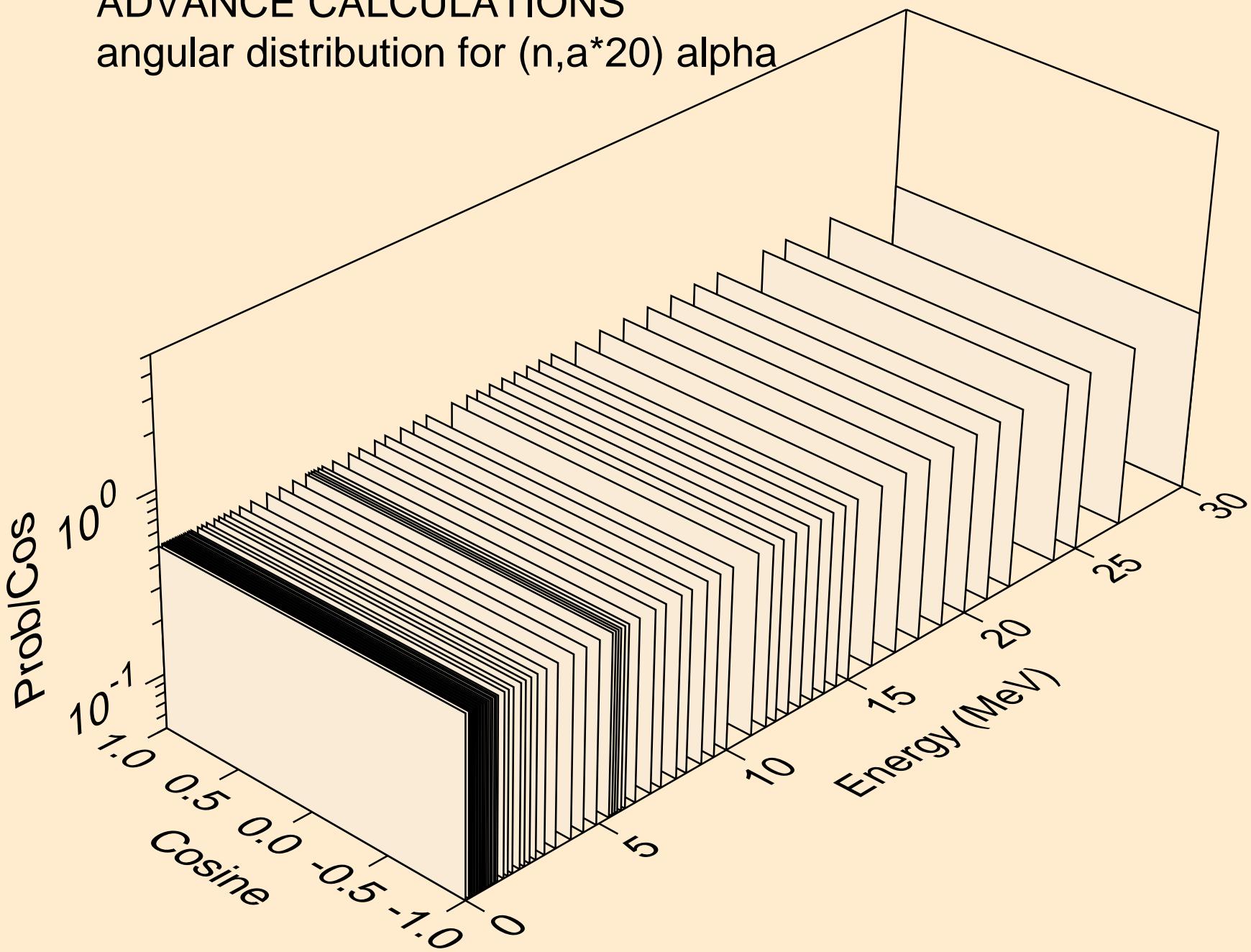
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*19) alpha



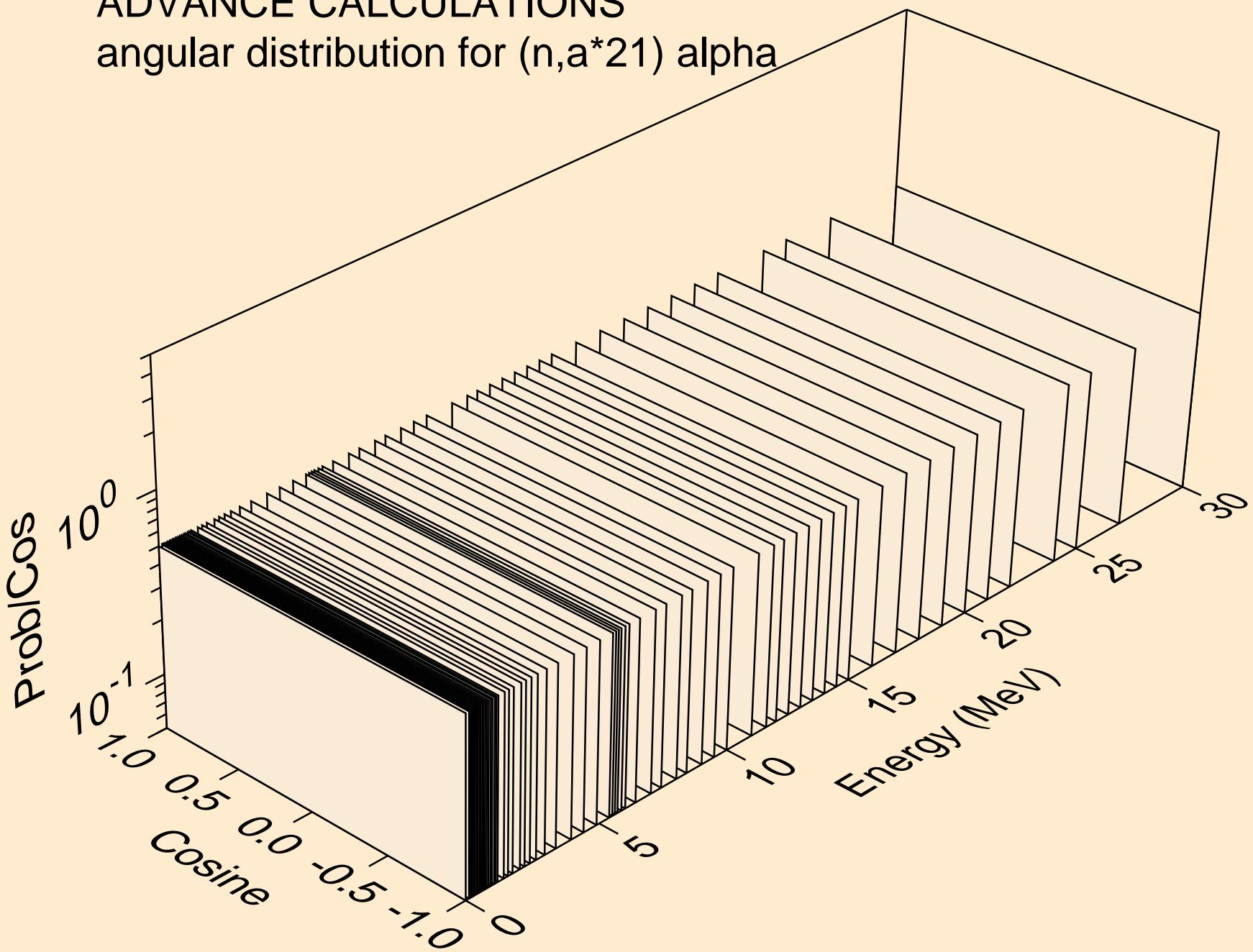
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*20) alpha



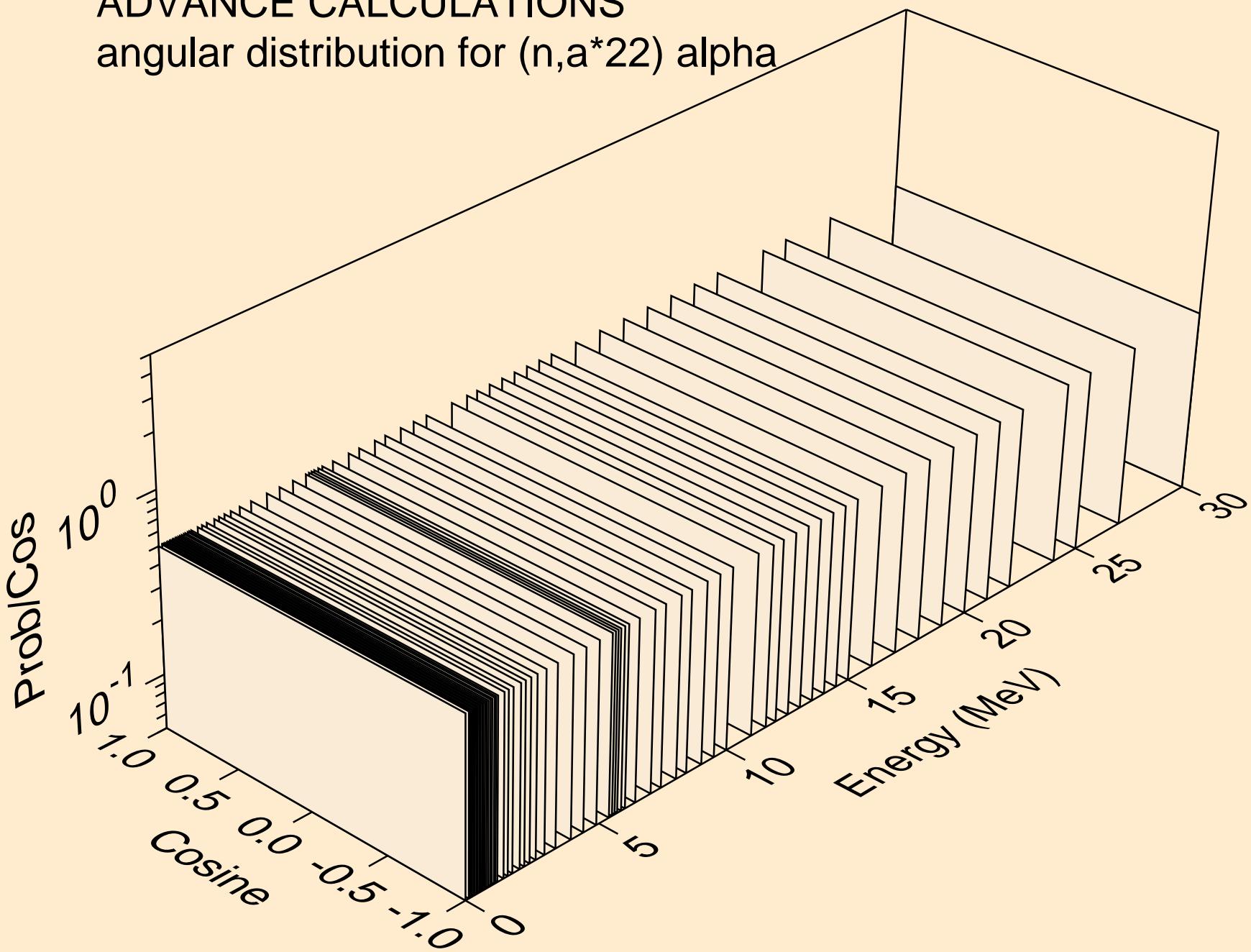
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 21$ ) alpha



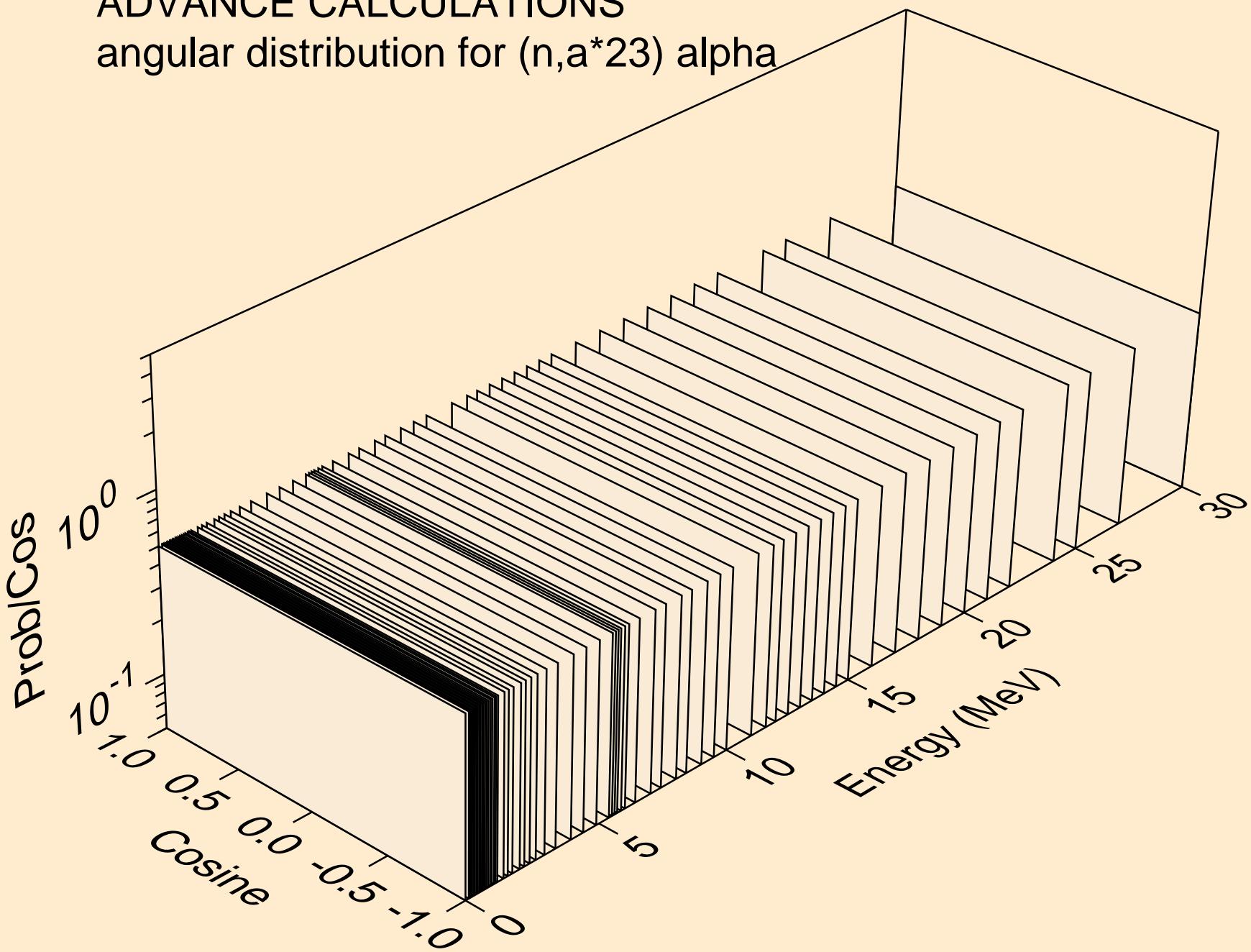
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 22$ ) alpha



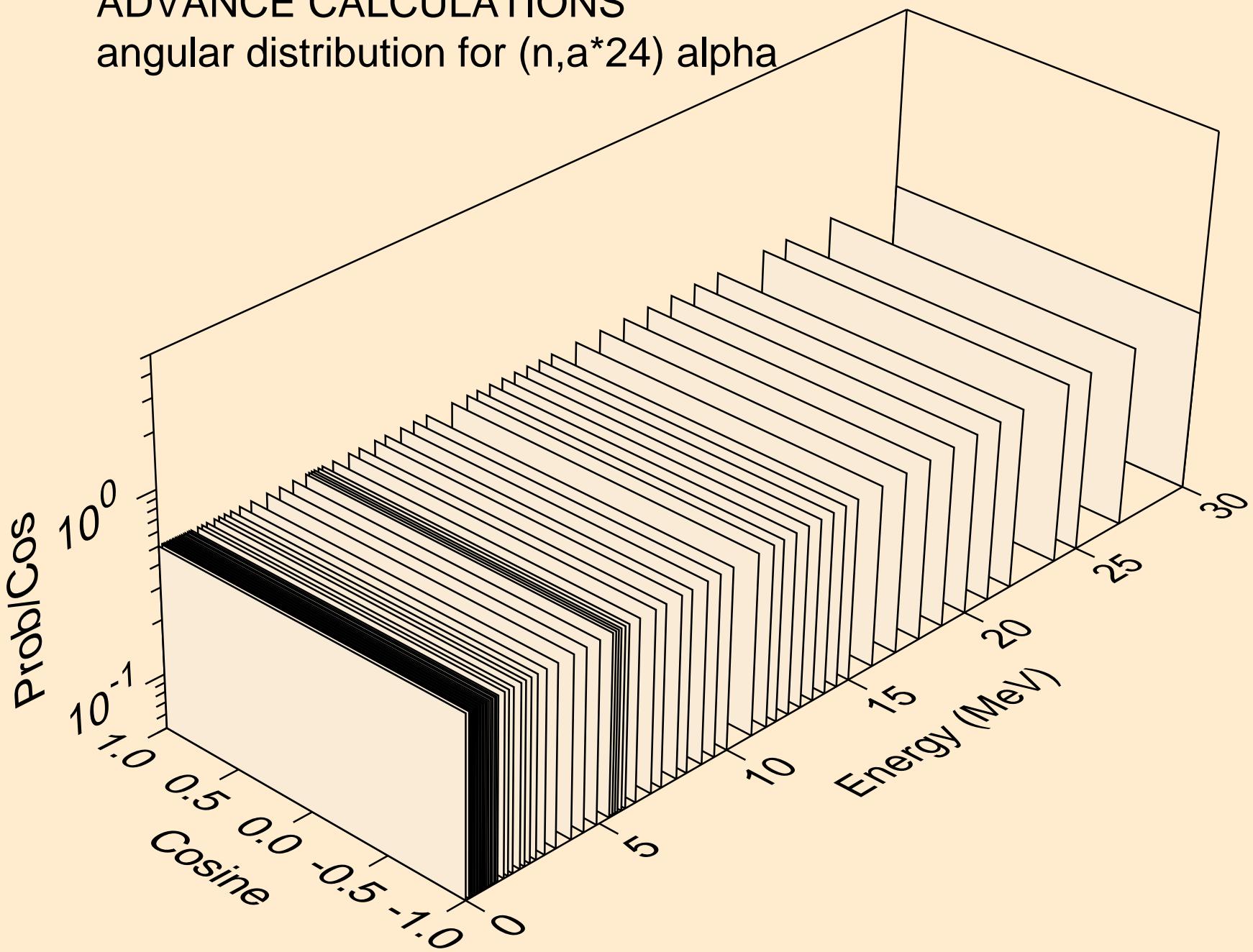
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 23$ ) alpha



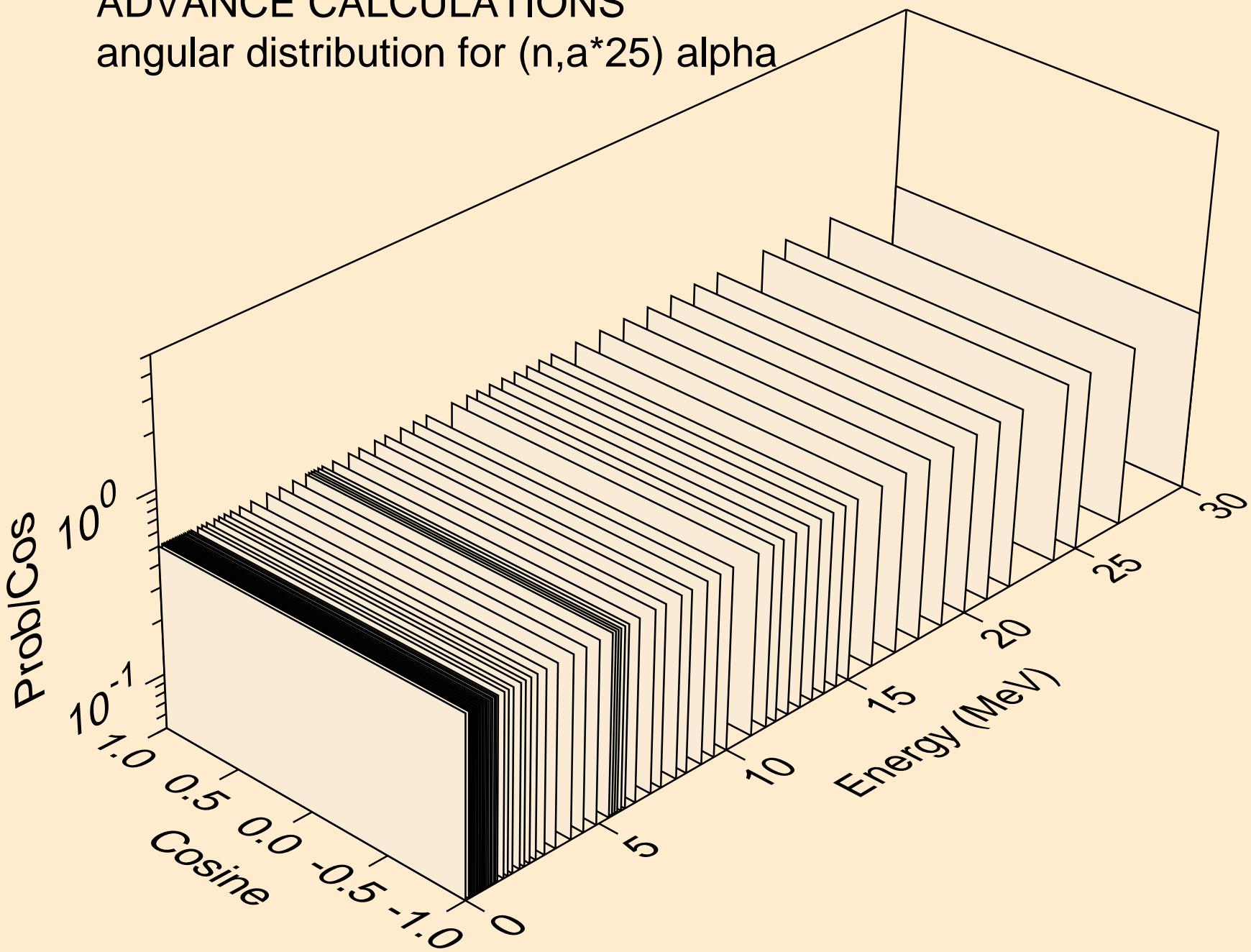
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 24$ ) alpha



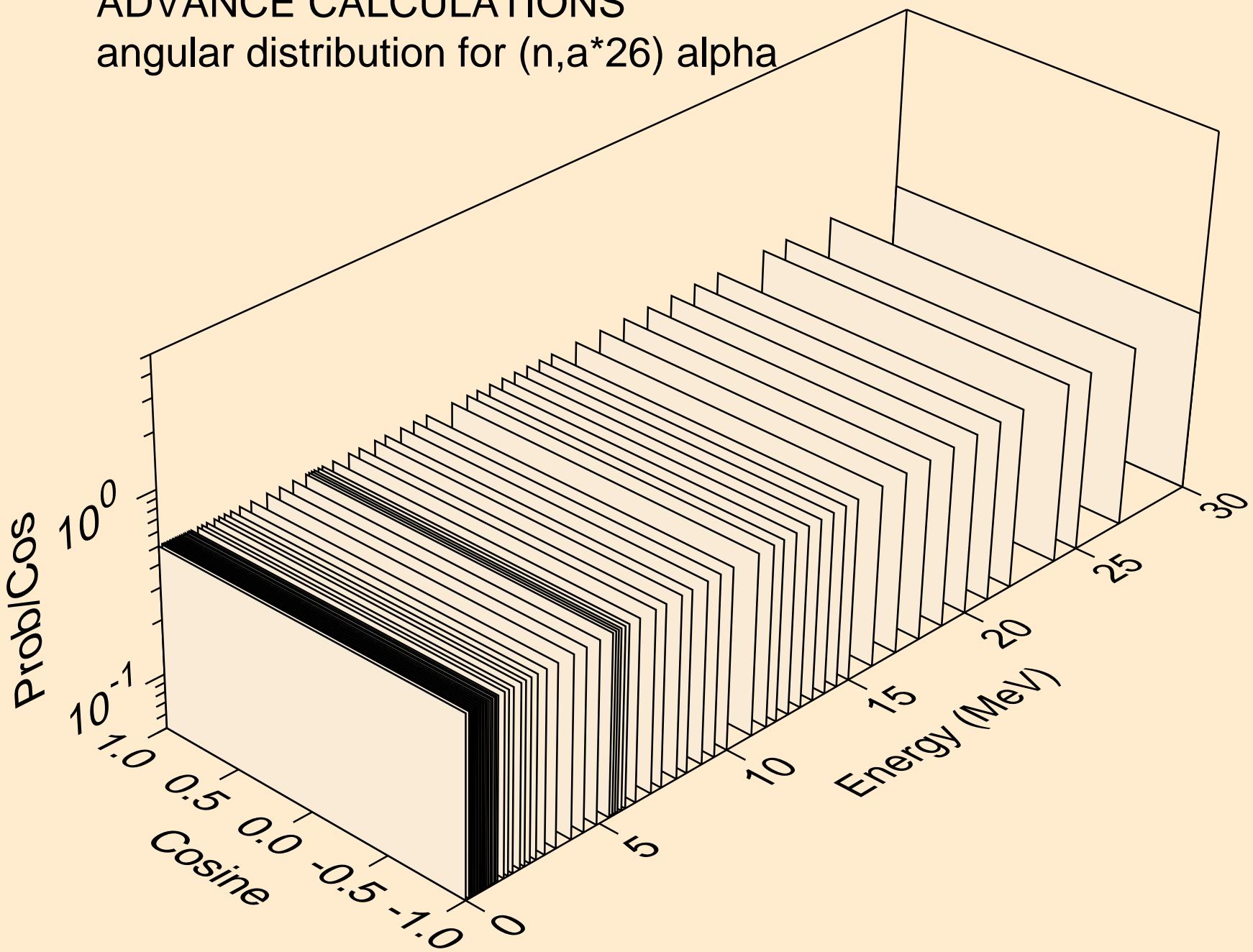
# ADVANCE CALCULATIONS

## angular distribution for (n,a\*25) alpha



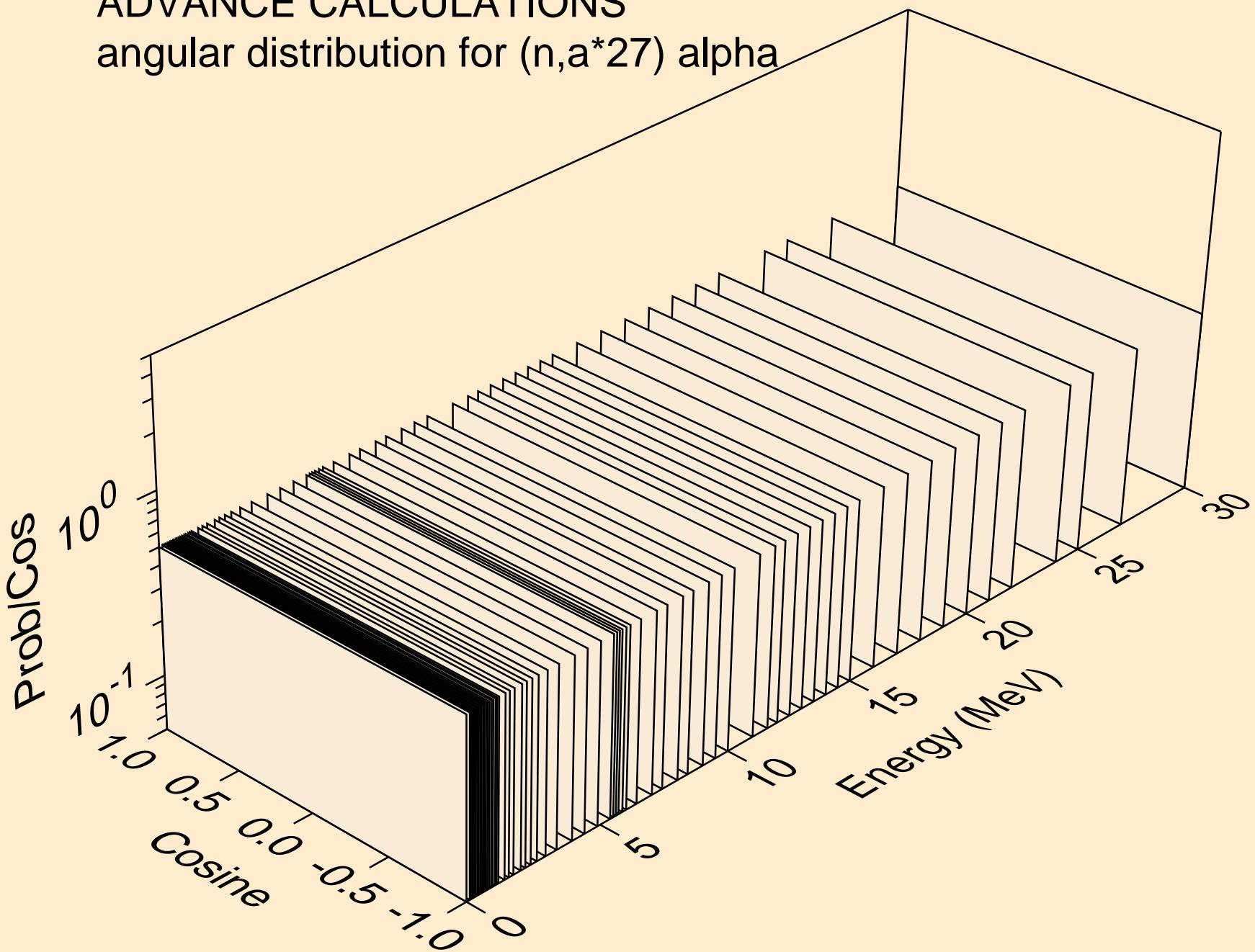
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 26$ ) alpha



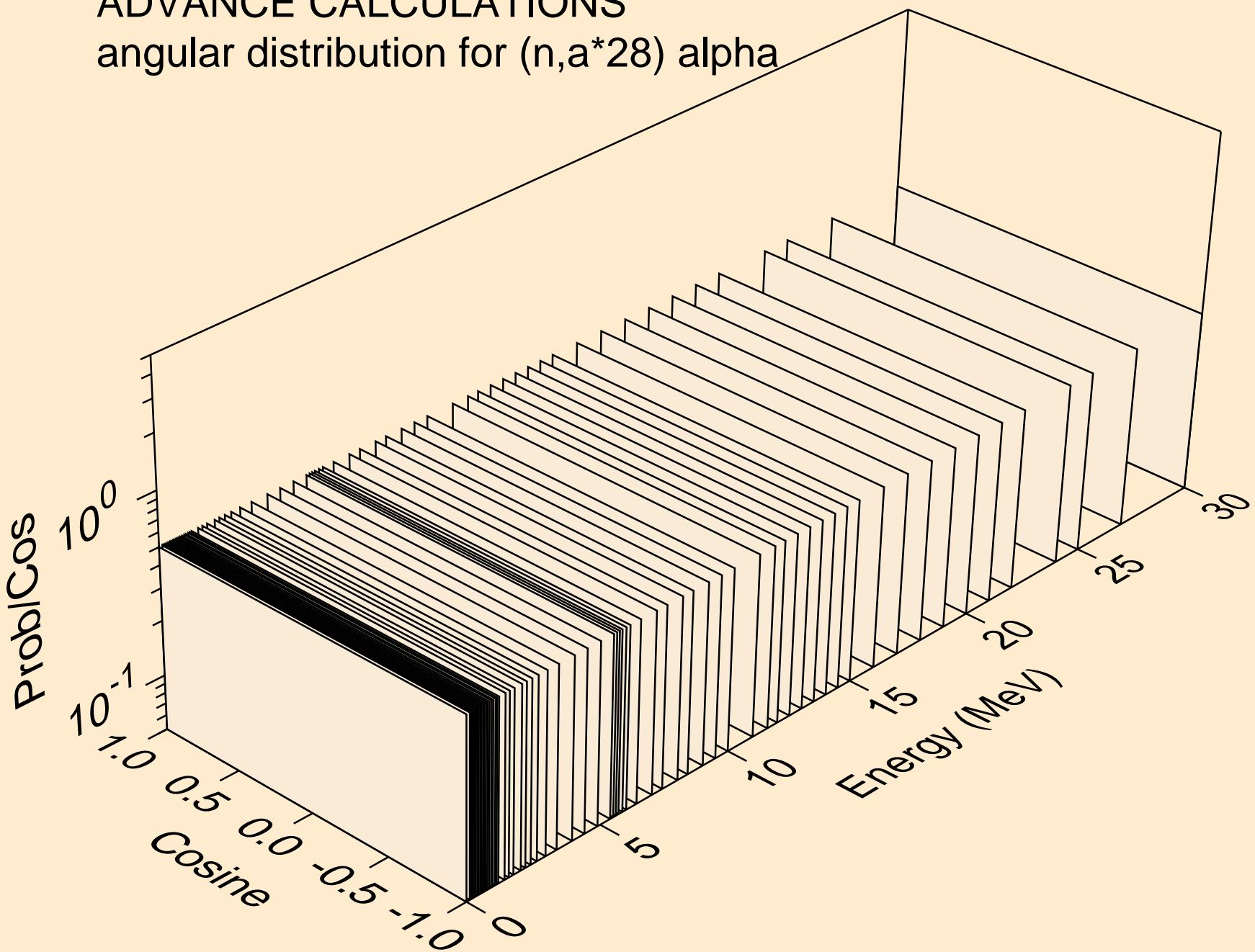
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 27$ ) alpha



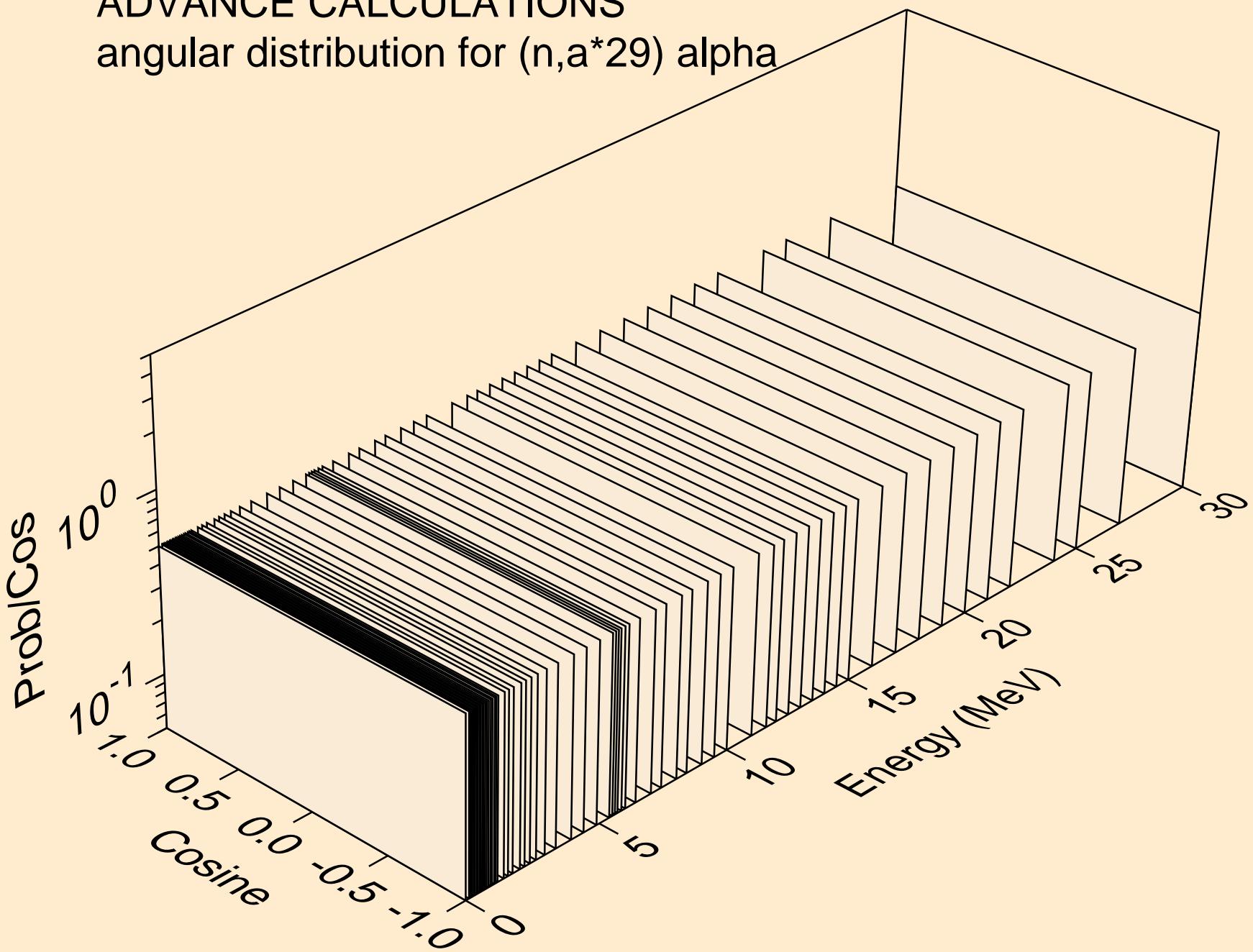
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 28$ ) alpha



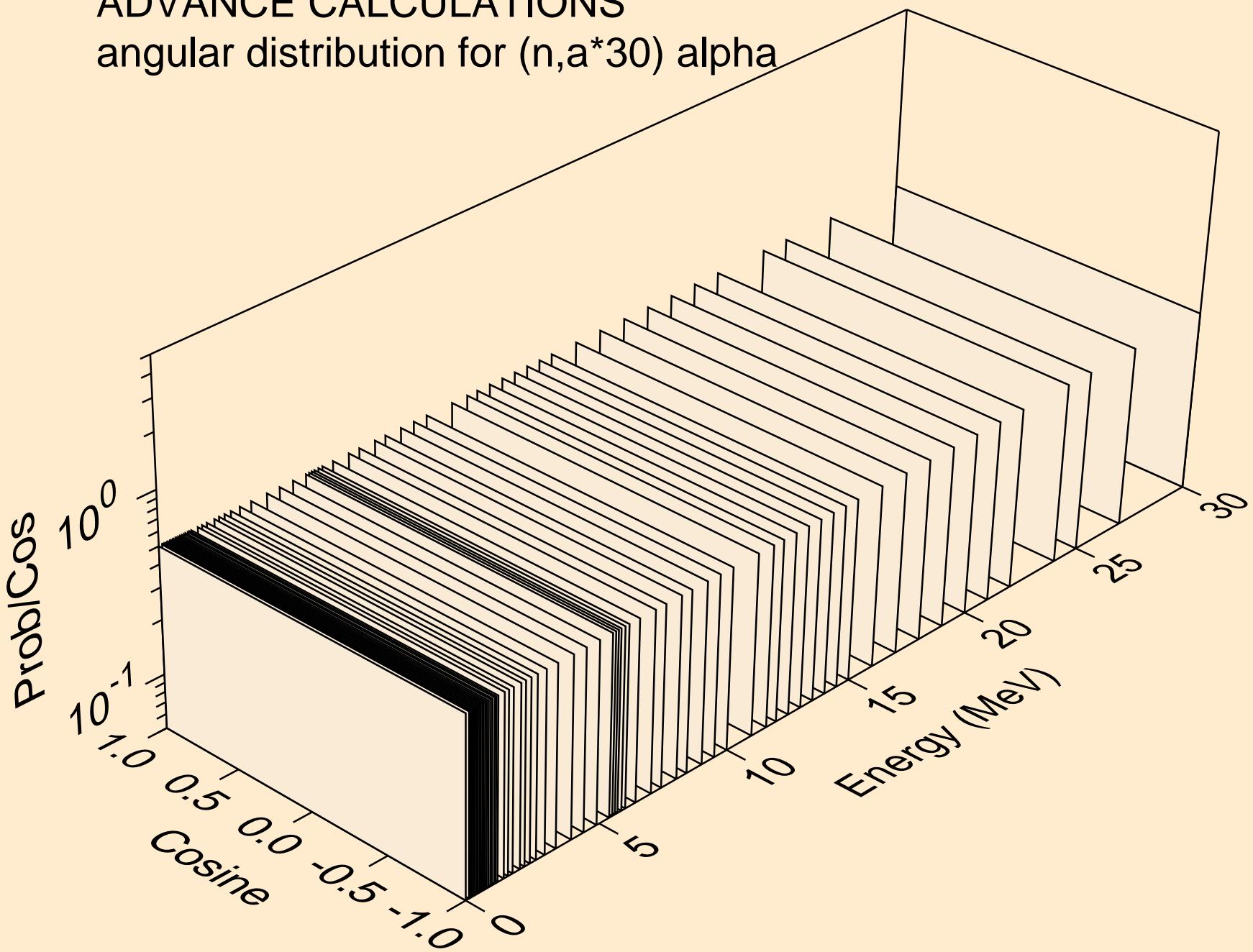
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^* 29$ ) alpha



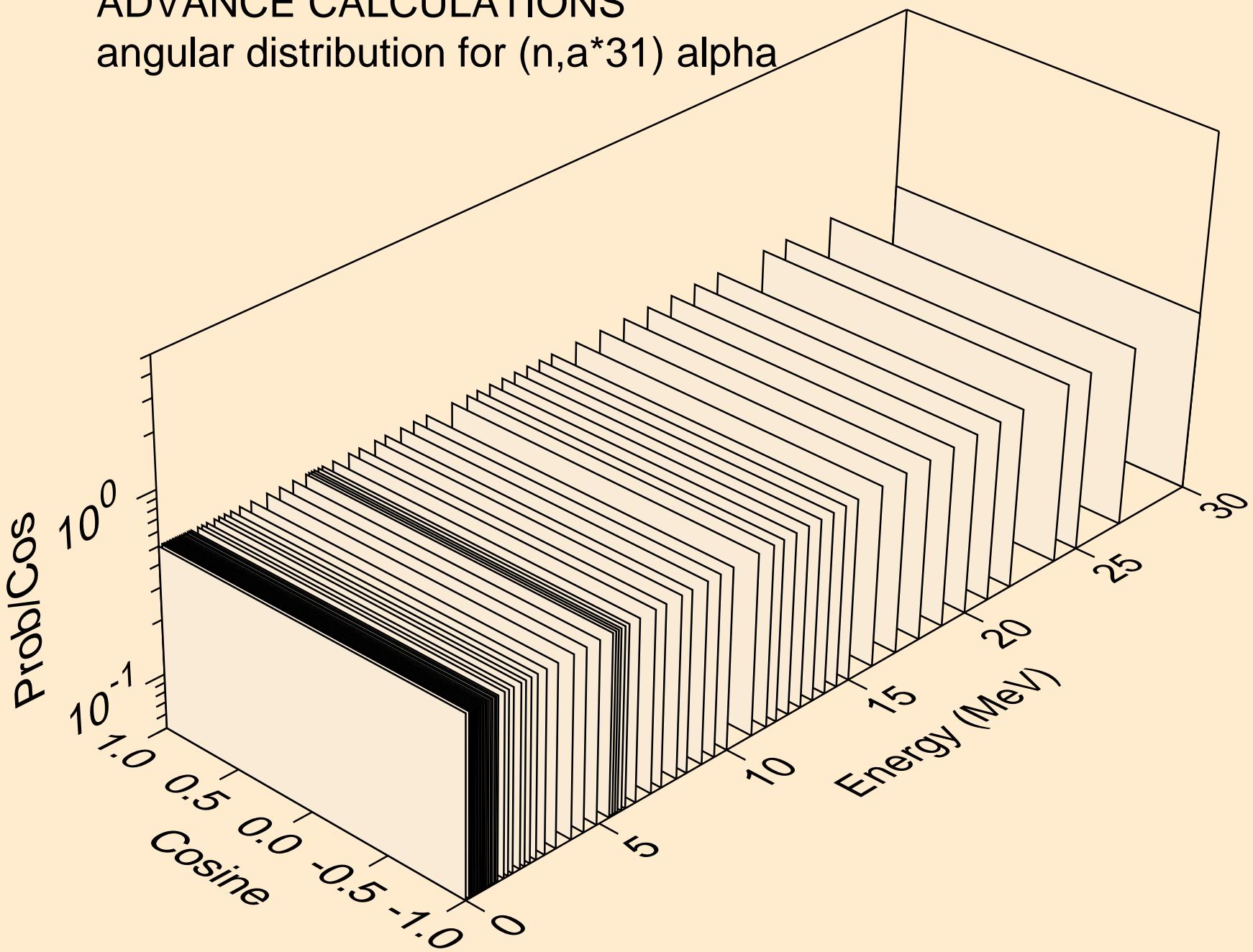
# ADVANCE CALCULATIONS

angular distribution for  $(n,a^*30)$  alpha



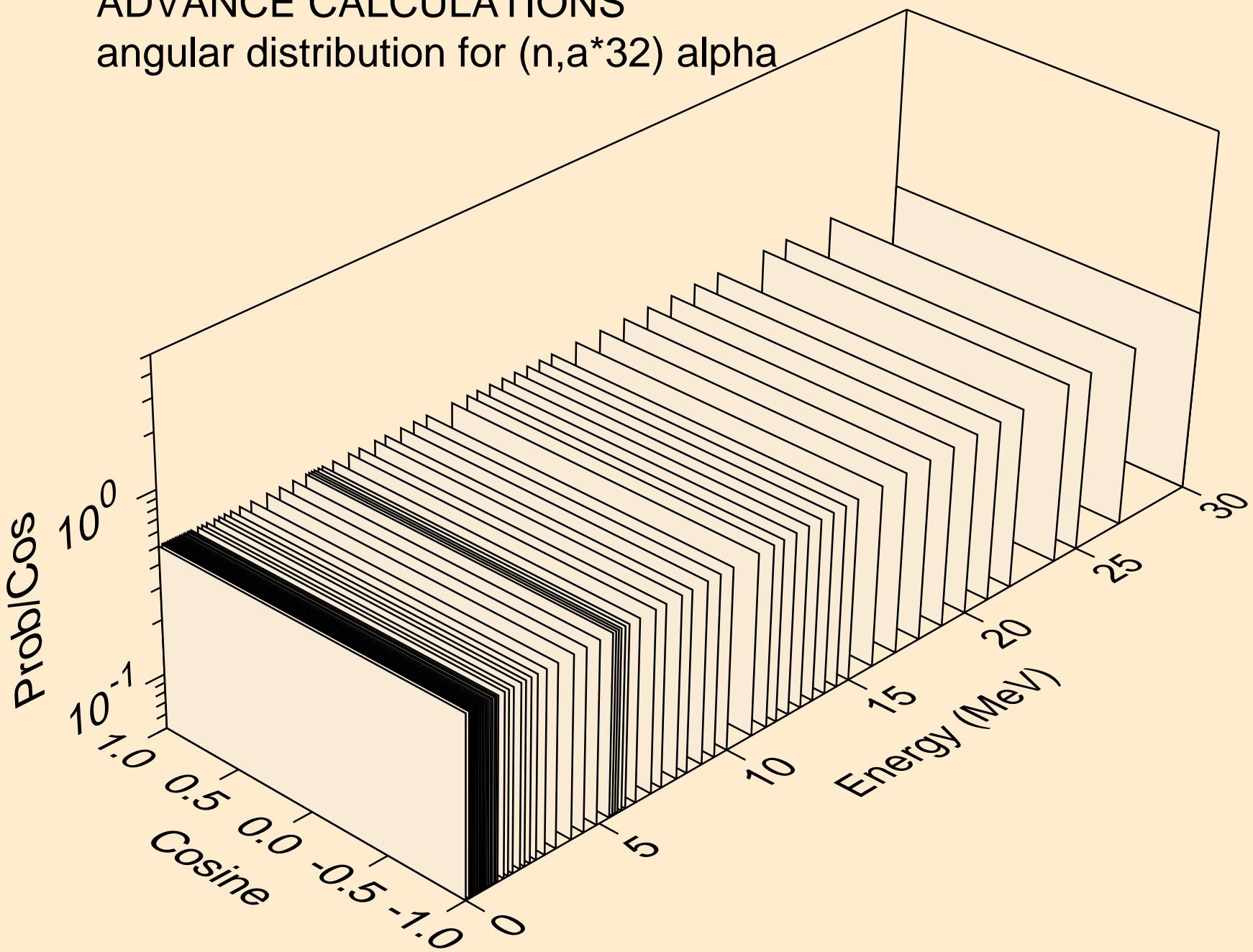
# ADVANCE CALCULATIONS

angular distribution for ( $n, a^*31$ ) alpha



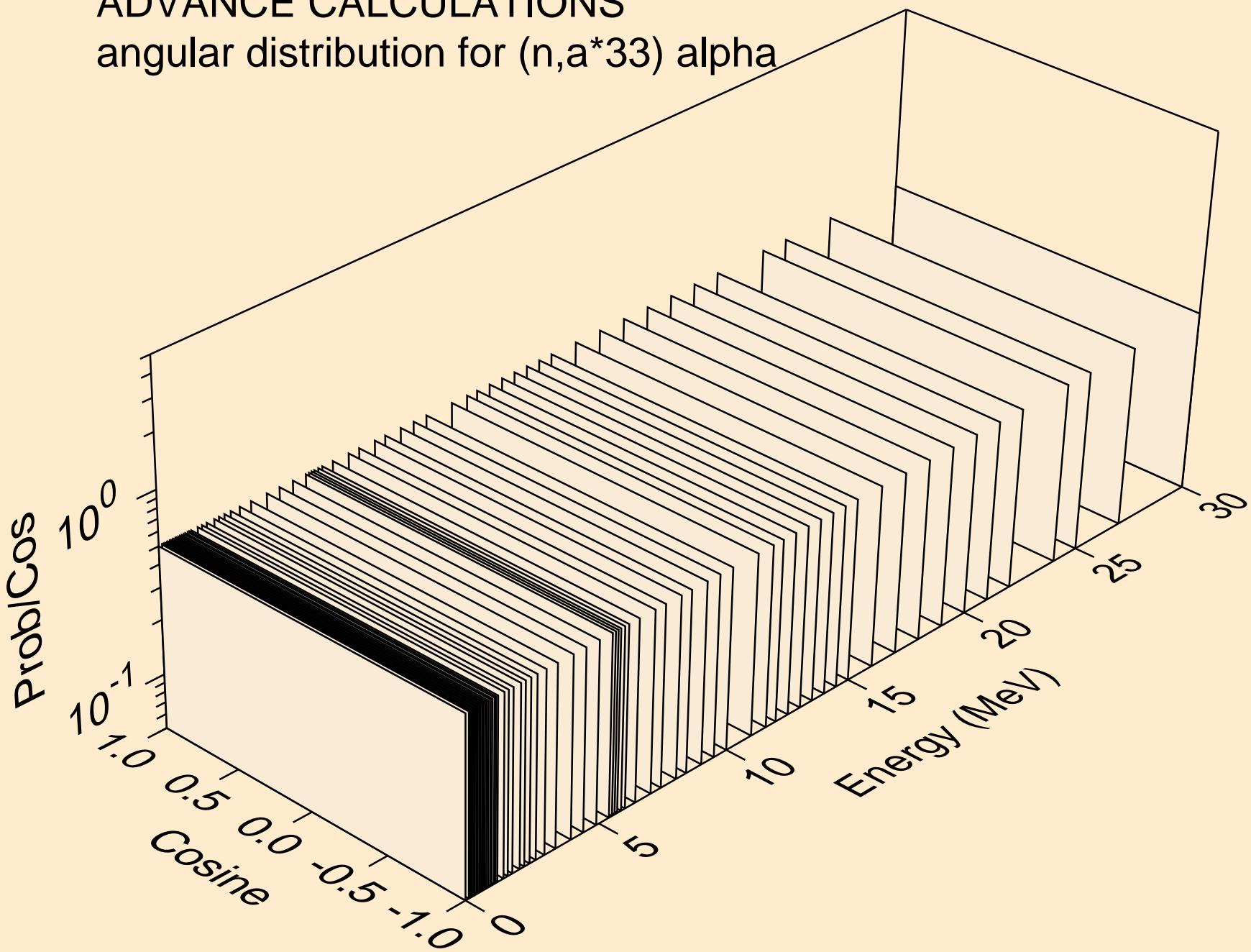
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^*32$ ) alpha



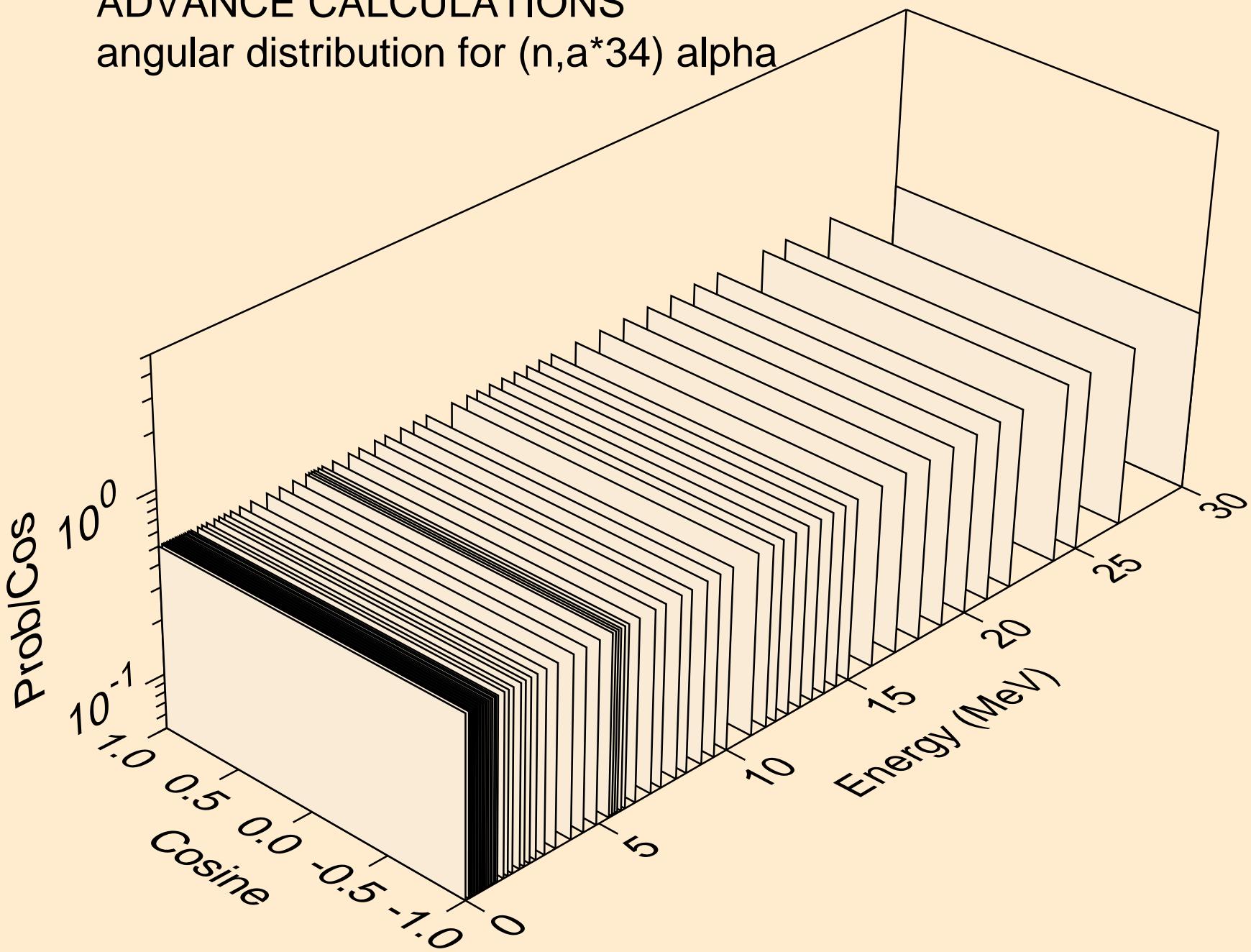
# ADVANCE CALCULATIONS

## angular distribution for ( $n, a^*33$ ) alpha



# ADVANCE CALCULATIONS

## angular distribution for ( $n,a^*34$ ) alpha



# ADVANCE CALCULATIONS

## angular distribution for ( $n,a^*35$ ) alpha

